

GENERAL PROGNOSTICATION -- DIGGES 1678







1756

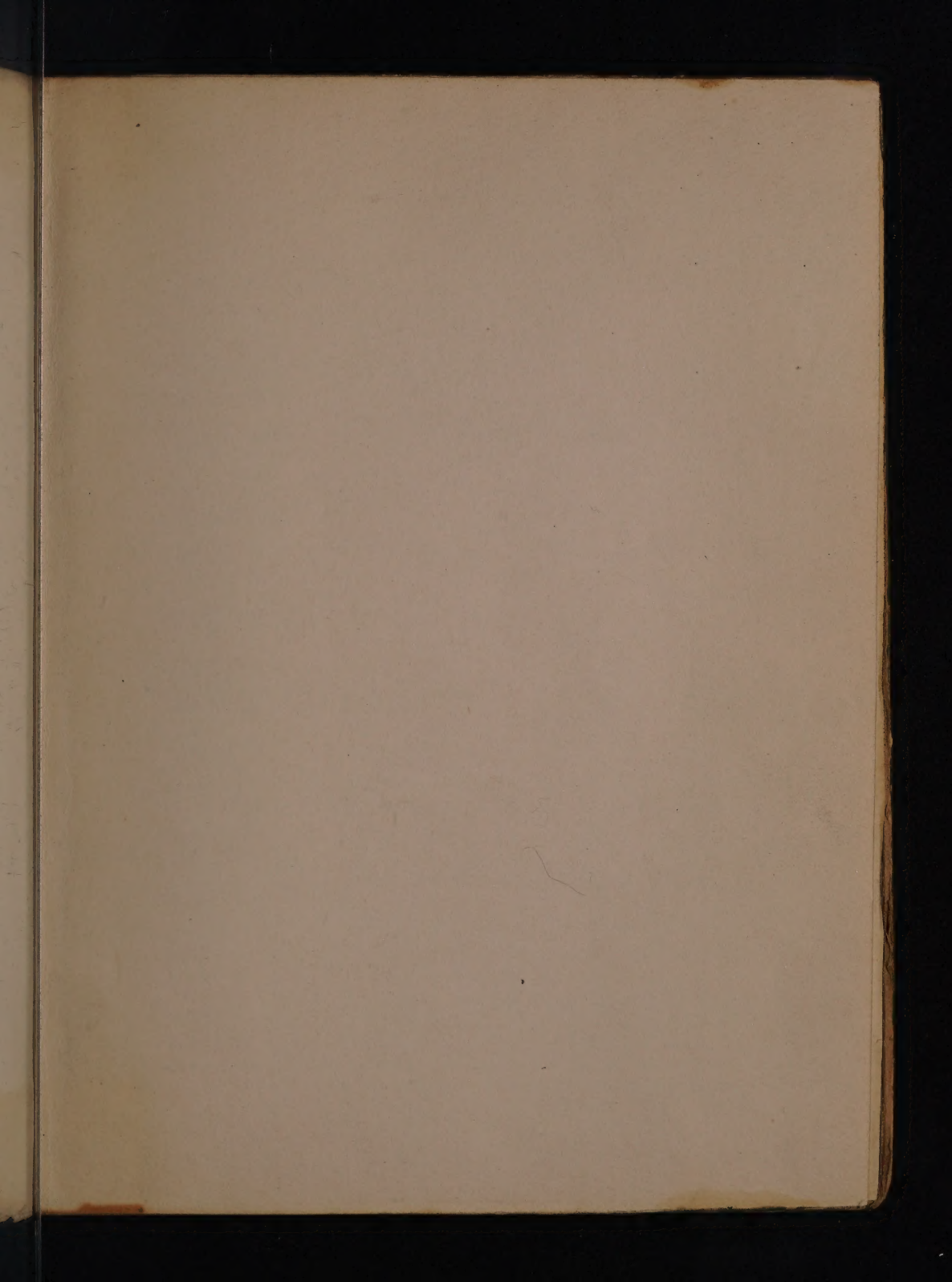
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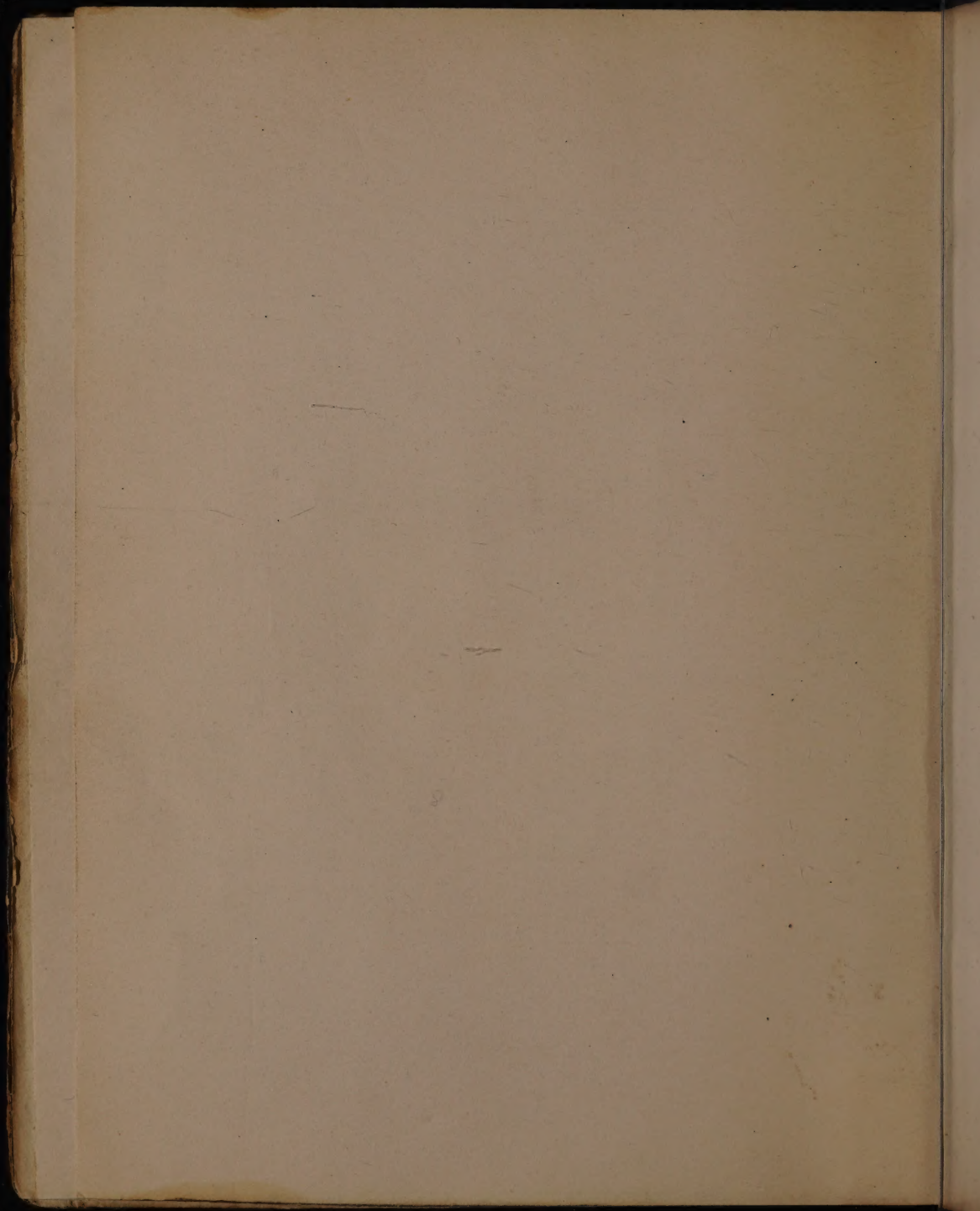
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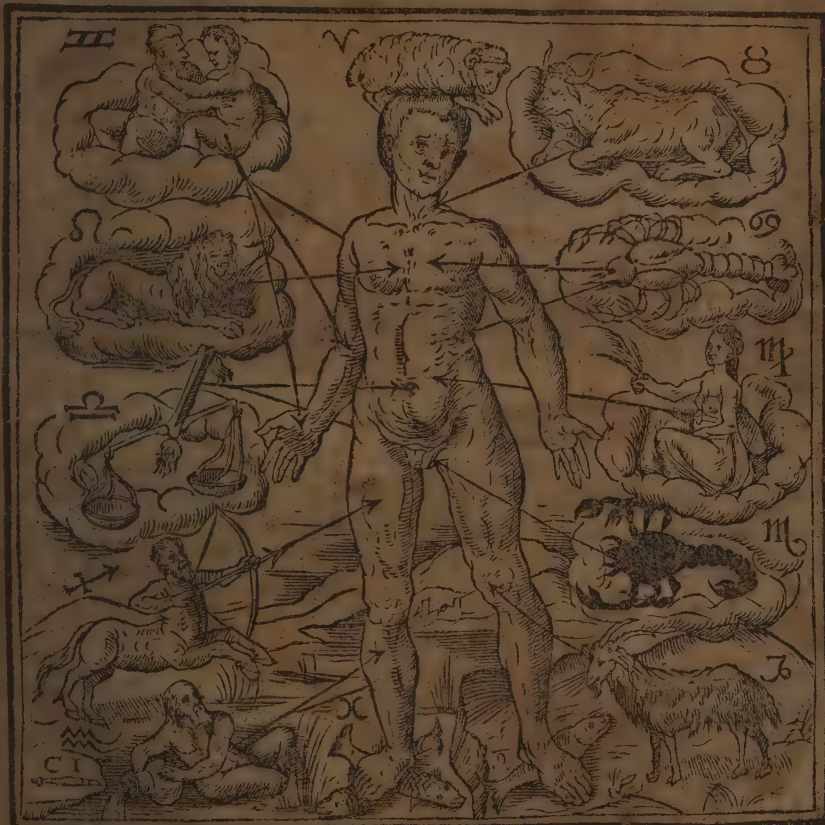
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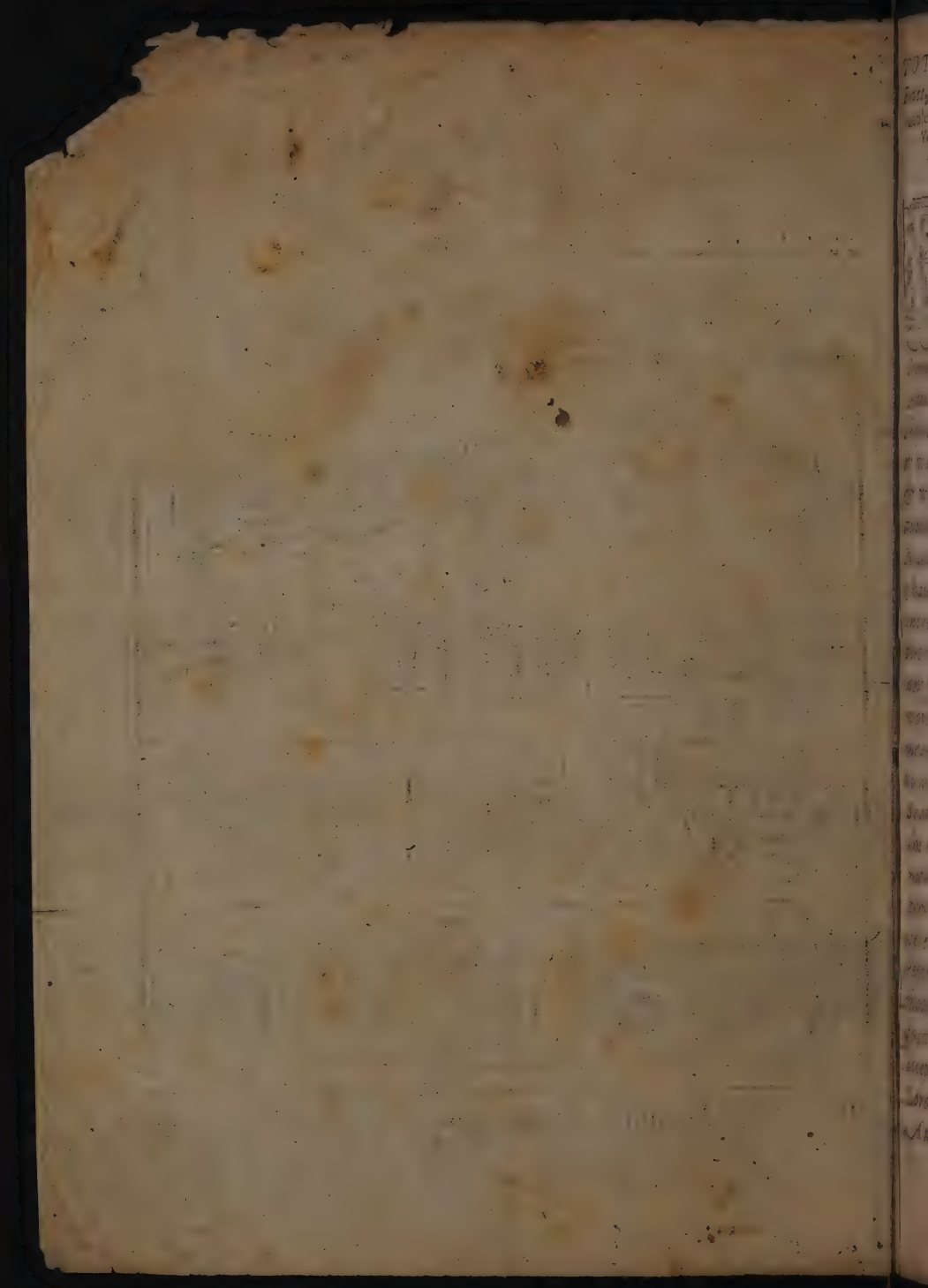
Via **A Prognostication euerlastinge of righte**
good effecte, fructfully augmented by the auctour, containning plain,
exple, measaunte, chosen rules to iudge the Weather by the Sunne, Moone,
Starres, Comets, Ramebow, Thunder, Cloudes, with other extraordinarye
tokens, not omitting the Aspects of Planets, vvith a brieft iudgement for euer,
of Plenty, Lacke, Sickenes, Dearth, V Varres &c. opening also many
naturall causes vvorthy to bee knowven.

To these and other now at the last, are iayned diuers General pleasaunt Tables,
vvith many compendious Rules, easye to be had in memory, manifold vvayes
profitable to all men of vvnderstanding, Published by Leonard Digges
Gentleman, Latelý corrected and augmented by
Thomas Digges his Sonne.



Imprinted at London by Thomas Marsha.

Anno 1578.



TO THE RIGHT HONORABLE SIR EDWARD

Fines, Earle of Lincolne, Baron of Clinton and Say, knight of the noble order of the Garter, Lord high Admiral of England, Ireland & Wales, and of the Dominions and Isles thereof: of the towne of Calice & Marches of the same, Normandy, Gascoigne & Guien. And Captain generall of the Quenes Maiesties Seas and Navie Royall.

Right honourable, hauing of long time sundry wayes found your Lordships great fauour not only toward my father in his lifetime but also toward his, most bountifullly commended sith his death, I haue carefully thought which way I might some way yelde a testimony of a gratefull minde. And Perusing of late a Booke of my fathers to your Lordship dedicate, by negligēce or ignorāce of Correcters many wayes depraued: I determined both to amēd the faults & with some additions to amplifie the same, briefly also to touch & discouer certaine errorrs touching matters of Nauigation transferred into our language. And although I haue in a peculiare volume for that purpose prepared to entreate at large deliuering new Rules & Methodes hitherto in no language published, nor to my knowledge of any forraigne Natio practized, not onely in demonstration voyd of al error, but also in practize feasible. Yet in the meane least farder bouldnes by ignorances should encrease to deriue vs mo errorrs from other nations, wherof our Seamen haue learned to many already: I thought good at the end of this boke to note some of the most used & esteemed & amōg that factiō held for Oracles, wherby, in dede they haue bin & are (in all Nauigations) so misled, that were they not by sight of the coast, & soundings better directed, then by any troth in their Art, many mo vessels should daily perish. This present, tokē therfore of dutifull good wil I shal humbly desire your lordship in good part to accept, meanīg here after (God sparing life to honour your Lordship & profit my country with matters more rare. And in the meane humbly take my leaue.

At your Lordships commaundement
Tho. Digges.]

To the reader.



Though (gentle Reader) the verely care
trauayles and paines of other, with the
confusions, repugnances, and manyfolde
errozs partly by negligēce & oft through
ignorance committed: I haue agayne
briely set forth a Prognosticatio general.
for euer to take effect, adioyning thereto
diuers profitable collections, and many pleasaunt conclusions,
easie of al willing ingenious to be perceiued. Here note (Rea-
der) whereas the eleuate Pole and Meridian should be conside-
red, in this worke it is perfourmed for Londō, because I with
this Meridian situation of clime the exact truch of thinges. If
any yearly practises in like matters agree notwith my calcula-
tions, be assured they are false, or at the least for other Ele-
uations or Meridians supputated, and therfore little seruing
thy purpose. And that the late rude inuencions, and grosse
deuises of some this yeare, & two yeares past published mighte
be of them perceiued, then filed, and to serue to some purpose: I
haue purposed euen now to put forth a booke named Panau-
ges wel seruing their turne, and so generally and most exactly
al Europe, pleasaunt, profitable to the learned, & no smal de-
light to all maner of men. An other booke is also ready come
to thy handes, tituled Tectonicon a treasure vnto the Masōs,
Carpēters, Ladmeaters, correcting their old errours w^{ch}ōg-
fully reckened of them as infallible grounds, teaching faith-
fully, sufficienly, and very briely, the true mensuration of all
maner land, timber, stone, hozd, glasse, &c. And at the end cō-
taining an instrument Geometrical appointed to their vse.
Take in good woꝛth these labours (loving Reader, and looke
hoꝛtly for the pleasaunte fruites Mathematicall, euen such as
haue bin promised by my friends and partly by mee. Neither
shal my desire to profite heretofore: but entēdeth farther to pro-
ceede, if these seeme accepted. As the good wil of Printers not
had, hath kept: & forsaide from you: so I trust & willing minde
& excellēcy of Tho Gemini, shal bring them hoꝛtly vnto you.
Certes my hope is while life remaineth, not to be vnfruitful
in this common wealth with study and practise,

Against

Against the reprovuers of Astronomie, and Science Mathematicall.



I Am diuersly occasioned (louinge reader) somewhat to write in the commendatio of the Mathematicals which needed not, but onely to open the foolishhe rashnesse, and rashe foolishnesse of such,

Vituperant
qui simpli citer
eas ignorant.

which of late haue in writinge dysprayed these goodly artes. It is an olde sayde saw, & true: *Scientia non habet inimicum nisi ignorantem*. But to auoyde tediousnesse, and chiefly for the moze facilitie, I referre all of that sort, which haue tasted any learninge (the rest not regarded) to the first parte of famous Guido Bonatus de vtilitate Astronomie in communi, where hee wytteth contra illos, qui dicunt quod scientia Stellarum non potest scribi ab aliquot: contra illos, qui dixerunt, quod scientia Stellarum non est utilis, sed potius damnoza &c. contra illos, qui contradicunt iudiciis Astronomie, & qui reprehendunt eam, nescientes dignitatem eius, eo quod non est lucratina. Also for breuitie I appointe all nice diuines, or (as Melancthon termeth them) Epicurei Theologi, to his his commendations touching Astronomy, vtttered in his Epistles to Simon Grineus, to Schonerus, & to the peroration of Cardanus's booke, where he sheweth how farre wyde they alledge the Scriptures agaynst the Astronomer, which make wholly wick the Astronomer. Melancthon wytteth and affirmeth. *Arrogantiam esse cum summa stultitia coniunctam, venari choragium aliquod glorie ex insectatione artium, que sunt graui autoritate doctorum prouidentia recepta*, hee calleth it manifestum insanie genus, declaring quod magis opus habent Medicis, q̄ Geometris, aduising the learned not to giue eare vnto theyr folly. *Sinamus (ait) una cum Epicuro ineptire*. Whych counsell I follow. Now therefore, ye enemies of all good doctryne epther geue an ouerthrowe & that in your penne, or let famous Guido, or learned Melancthon satisfie. If neither: certes I will shortly (God sparing life) take some paine in publishing the wonderfull vnknewen pleasaunt profits of these dysprayed high knowledges and by that meanes to enforce silence.

Now in few, for thy encouragement in these, thus I say and truly, thee ingenious learned, & wel experienced circumspect student Mathematicall, recepueth dayly in his witty practises moze

A.

pleasaunt

Stulti negligunt & contemnunt:
qui contradicunt
ambitiosus est,
qui maledicit,
fatuus.

pleasunt ioy of mynde, then all thy goods (howe riche soeuer thou bee) can at any time purchase. *Id tantum quod pulchrum est, quod purum est, quod diuinum est, nihil mortale sapiens dulci ardore amplectitur. Ut multa paucis: crede mihi, extinguat dulce erit Mathematicarum artium labore.* Now to ende: that learned Guido, & excellent Guido bonatus, sheweth what Astrologie or Astronomie is, & ought not, sayth he) by any meane to be reprehended, in that the most wysse, yea, the holy fathers haue practised that science. He proueth it one of the chiefe sciences Mathematicall. by the aucthority of the best learned, & by Aristotle in his Posteriorum. Howe commeth it to passe louinge Reader, seeinge it is a noble Science. *Et Scientia est notitia vera conclusionum, quibus propter demonstrationem firmiter assentimur,* that it is counted payne, and of so small strength: the secret truthe and most pleasaunte profite therein not desired, yea utterly dyspyled and of some busy byting bodies relected as very lies? Let no man doubte ignorance, the great enemy of all pure learninge hath wrought this. *Nam incertam vocat hanc artem vulgus, propter errores non arti, sed hominum indoctissimorum inscitia, & temeritati imputandos, qui citra delectum omnia effutunt.* Thus I leaue indigently farther to trouble: fauour me as I tender the furtherance of good learninges, profitable to a common wealch. Fare most hartely well, vnsayned good Christian Reader.

The contentes of this booke.



From y^e next syde to the fyfth leafe are contained
y^e form of a Quadrante, Square, Circle, Qua-
ntities, with a figure trulpe placinge the sayde
Quancity in the beauen.

From the fyfte to the thircenth, yee haue the
iudgement of weathers by the Sun, Moone,
Starres, Comets, Raynbow, Thunder, Clouds, with extraor-
dinary tokens and aspectes of Planets. &c.

The 13. 14. 15. and 16 leafe, shewe the causes of such alteration
according to Aristotle. Fyrst of y^e Raynbow, then Rayne, Frost,
Dewe, Snowe, Haple, Wyndes, Earthquakes, Thunders,
Lightninges, Comets, Sunne and Moone eclipsed, Quanti-
ties of the Planets, and their placynge ocularly demonstrated.

The 17 the aspectes of the Moone and her signification in the
12. celestiall Signes.

The 18. 19. and 20. What Signe the Moone is in & Halbee for
euer, the meete time to let blood, to purge, to bathe, to fall timber
to sow, to plant, to grasse cut geloe.

The 20. and 21. haue Tables for the Sunday letter, for y^e Gol-
den number or Prime, for the Epact and moucable feastes, many
wayes conducting.

The 22. 23. and 24. the age of the Moone, y^e chaunge and quar-
ters for euer are declared, the Ebbings and Flowings, the break
of the day, the Sunne rising, the length of the daye, and Night, y^e
Twylghe for al the yeaere.

The 25. 26 and 27, shewe exacte pleasaunt wayes for the day
and night howze, with composition of meete instruments.

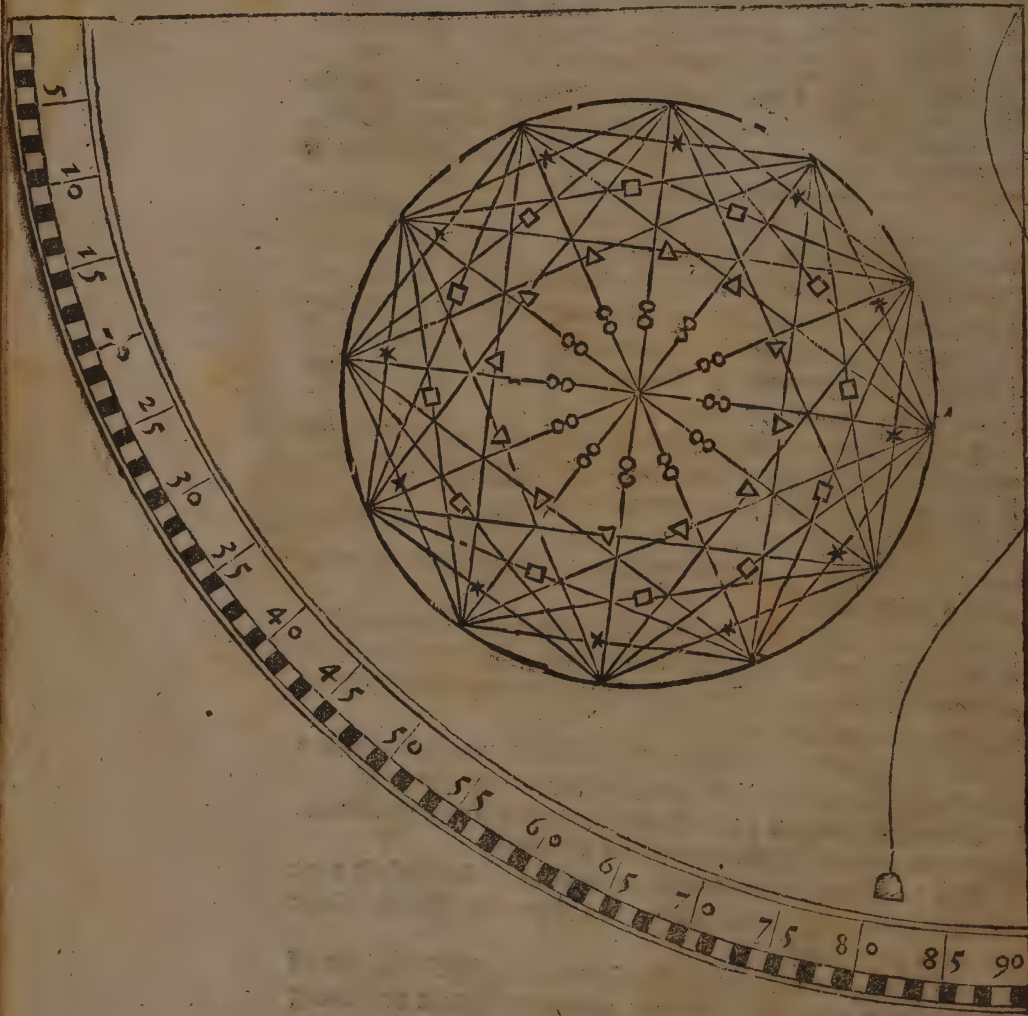
From the 29. to the 34. leafe, yee haue the peculier Kalender,
very commodious for the day and night howze.

The 35. 36 and 37. declare infortunate dayes of the tohole yere
with a Kalender general, and Tables as general, for the chiefe
sayres of England.

The 38. 39. and 40. contayne pleasaunt tables for the height of
the Sunne at all howzes, for right and square shadow conducting
also to the composition of many instrumentes. &c.

The 40 and 41. leafe, Collections easy to be had in memorie

¶ This Quadrant is appoynted here to gette exactlye the length of Staffe.
and Squier shadow, how vnleuel soeuer the ground be, as I haue sufficient
ly instructed in the eight and thirtie leafe.



If ye list not to make a Quadrant, ye may vse this very vvel: adding a plumbmet and lyne, vvith sightes or otherwise,

This

This instrument must be made in a playne fyne metall plate, a foote or more square. Then it is pleasant for the houre of the day and nyght, either to be fixed about your house, or moueable if ye list, by a Needle to placed where and when ye wil. The 26. leafe sheweth the making.



The good Pariner may long for the vse of this Instrument: it serueth marueylously his tucne.

Or thus without the Square, this Circle wil serue wel.
your purpose beyng exactly made, and truly placed.

North

West



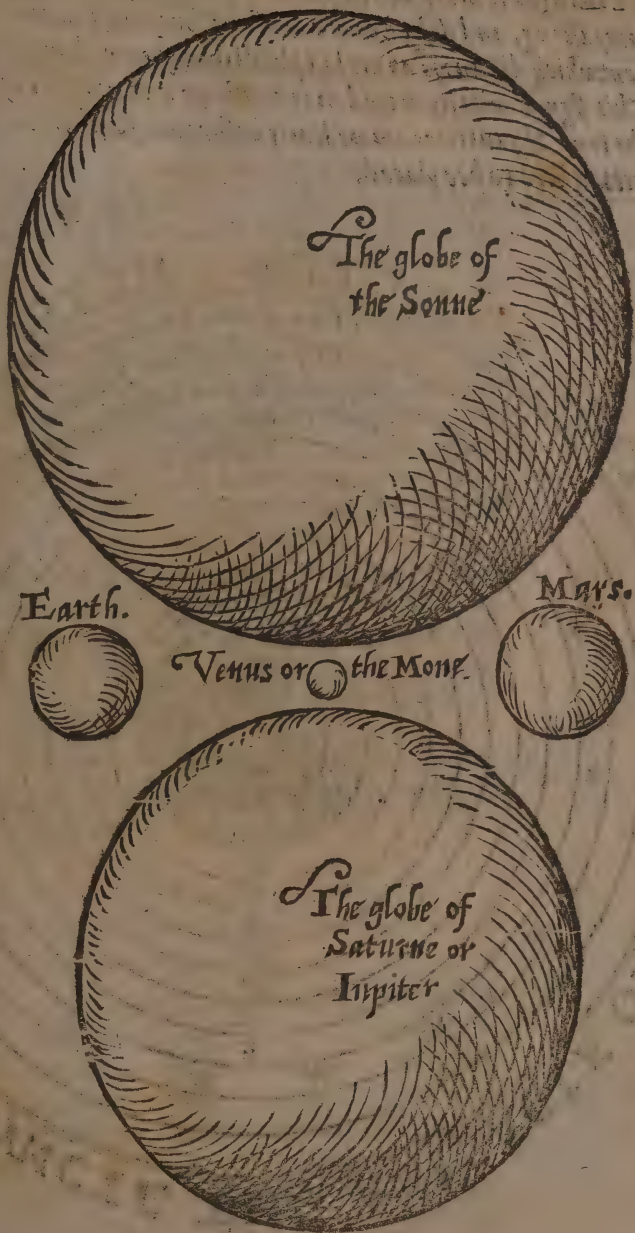
East

South

The Diameter or breadth of this Circle, must be a foote
or more, so it is most commodious to serue his
use declared.

I haue

I have placed
ready to bee con-
ceptued even here
at the eye, & true
quāties of mag-
nitudes of the se-
uen Planets, the
one to the other,
and every one to
the earth: whych
may satisfie them
that Scorned my
last publyhing,
where I declared
the Globe of the
Sunne, to con-
ceyue h^e Globe of
the Moone. 7000.
tymes. I woulde
they were able to
conceiue Demon-
stration made: th^e
the truth moze e-
uidentlye appea-
ring, would pull
scornings away.



I thought it mete also to put here this figure, shewing the placing
 compassing, and distances of each of the foresayd Planets in the hea-
 ven: which distances at my last publishing were thought impossible.
 This figure wittily wayed may confirme a possibility to agree unto
 the true Quantities, immediatly before put forth, therefore not om-
 mitted here to bee placed.



HOVV TO IVDGE OF Fol. 5.

weather by the Sunne rising

or going downe.



The Sunne in the Horizon or rising, cleare & bright, sheweth a pleasant day, but thinly overcast with a cloude, betokeneth foule weather. Also at going downe, the body diversly coloured or red, & about dispersed with like cloudes, the beames red, & of length, promise great wyndes, the next day from that part. Blacknes in the Sunne or Moone, betokeneth water: Red signifieth Winde.

De obseruan-
dis meteoris.

The Element redde in the evening, the next day saye: but in the morning redde, wynde and rayne. Also the Sun beames spotted, greene, pale, or blacke, gathered to a cloude, signifieth rayne. Further the Sun at the setting playnly seene without any cloude, declareth a saye night to ensue.

Here note, Ptolome willety vs diligently to obserue, the circle or circles about the Sun. If it be cleare, & that circle of no continuance, behold saye weather. If many of them, winde.

Winds moze behement are signified, if the circles be somewhat redde, here & there broken: but these obscured thicke, & blacke, looke for cold wynde and snow.

What is spoken of the Sun, touchinge the circles, the same is ment of the Moone. Note here that greater wynds chaunce in the day, then in the night.

Howe weather is declared by the colour of the Moone, and by the nature of the Signe wherein shce is.

If the Moone in the third of hir change, yea thre dayes before the full, or in the middes of the quarter, be scind of pure light, nothing compassing hir, th'ende direct by, she promisseth saye weather, but bent to red coloure, promise winde. The Moone pale or somewhat inclined to black, obscure or thicke, threameth rayne.

*Luna rubens rē-
tat, pallor pluit,
Alba serenat.*

Also by the nature of the signe, weather may be iudged, thus according to Stoflerius, Monte regius, Leupoldus, & famous

B.

Guido

A Generall Prognostication.

Guido Bonatus, who other wel travelled in his mutations of ayre

Consider the nature of the signe where the Moone is at the chaunge, quarter, and ful. If she be in hote and dry signes, as Aries, Leo, Sagittarius, in winter a good token of sayre wea-
ther. In Sommer a great signification of immoderate heat: If
Earthy. in earthy cold and dry signes, as Taurus, Virgo & Capricor-
nus, in winter iudge cold, frost, & snow to ensue, but in sommer
temperate weather. In Ayrie and windy signes as Gemini, Li-
bra and Aquarius, much wynde, If in watry colde and moyste
signes, as Cancer, Scorpio and Pisces, in Winter wet weather
watrye. In sommer a pleasant temperature.

Also the Sunne in Aquary, the Moone at the chaunge, there
 or in Sagittary, or at the ful in Leo, betokeneth raine. The
 Sunne in Pisces or Aries, the moone in Virgo, Libra, or Sa-
 gittary, signifyeth rayne especially in watry dwellinges. The
 Moone in Aquarius or Pisces, loke for chaunge of weather, the
 chiefly she troubleth the ayre. The Moone also at the chaunge
 or rather at the ful, in Aries, Libra, Scorpio or Pisces, tem-
 pestuous weather followeth. The Sunne in Aquarie in Aries,
 Libra, or Scorpio, but chiefly in Leone, the Moone then at the
 ful, and that after rayne or mistings, loke for lighening thun-
 der &c. To conclude the Moone in Cancer, Leo, Capricornus,
 or Aquarius, ayded with any aspect, but chiefly with opposi-
 tion of Quadrat of Venus rayne followeth.

The iudgement of weather by Starres.

Behold the Stars whose magnitude you know best. If they
 appaere of much light, in bignes greate more blasinge then
 they are commonly, it betokeneth great wind or moisture in
 part where they shew: in winter, cold and frost. When starres
 seeme to runne in the Element, it sheweth wynde. Affirme also
 alteration of weather, if they be fewe in number, cloudye, and
 of little light. Further when dim starres appaere with longe
 fiery tayles, iudge wyndes and great drought, the more in num-
 ber, the greater effect. When Stars in the night (as it is sayd)
 shoote

Cū maio
 ralapparet
 tu in enim
 Humore
 medius
 crassellit-
 ser.

Shoote or seem to fall, it argueth wynd in y^e parte. If in diuers places, inordinate wyndes, if in al places, then pronouice winds thunder, lighenings, yea weather most tempestuous.

¶ The significations of Comets.

Comets signifie corruption of the ayre. They are signes of Earthquakes, of warres, chaunginge of kingdomes, great dearth of Corne, yea a common death of man and beast.

Pontanus sic scribens: Ventorum quoque certa dabunt tibi signa Cometa: Illi etiam belli motus, feraq; arma minantur, Magnorum elades populorum, & funera regum, aquarum significat penuriam

De cometarū prodigijs, lege Cardanū lib. 4 Fol. 83. & Antonium Mizal- dū de Cometo- graphia.

¶ How by the Clowdes, chaunge of weather is perceyued.

If chicke clowdes resembling flockes, or rather great heapes of wol, be gathered in many places, the shewe raygne. Also when grosse thick darke clowdes right ouer the Nozthe parte, or some what declyninge to the Weste are close with the Earth immediatly followeth rayne. If they appeare like Hilles, some deale fro the earth, a good token of weather ouerpasse. Black clowds, signify rayne. Whyte clowdes appearing in winter, at the Horizon two or thre dayes togeather, prognosticate cold, and snow.

¶ Of the Raynbow and his effect touching alteration of Ayre.

If in the morning the raynbowe appeare, it signifyeth moysture, vlesse great drought of ayre worke the contrary. If in the euening it shew it selfe, sayre weather ensueth, so that about moyst ayre take not away the effect.

Arcus nisi sole aduerso non sunt.

Or thus,

The raynbow appearing, if it be sayre, it betokenneth foule weather: if foule, looke for sayre weather. The greener, the moze rayne, redder winde.

Non apparec nisi cum vapores rarificantur vel inspissantur

¶ Of thunders, what they signifie,

B 2.

Chan.

A generall Prognostication

Signum futu-
rorū bellorū.

Thunders in the morning, signify tynd. About noone, rafn. In the Euening, great tēpest. Some write (their grounde I see not) that Sondays thunder, Should bypnyng the deathe of learned men, Iudges and others.

Sondays thunder, the deathe of women.

Tuesdaves thunder, plenty of grayne.

(thed.)

Wednesdaves thunder, the deathe of harlots, and other bloud-

Thursdaves thunder, plenty of sheepe and corne.

Frydaves thunder, the slaughter of a greate man, and other horrible murders.

Saturdays thunder, a general pestilent plague and greas deathe.

¶ How weather is knowen after the chaunge of euery Mone by the Prime daye.

Sunday Prime, dry weather. Monday prime, moyst weather. Tuesday Prime, colde and windy. Wednesday Prime, wonderful. Thursday Prime, fayre and cleare. Friday Prime, mixt weather. Saturday Prime, moyst weather.

¶ Nowe sheweth extraordinary tokens for the knowledge of weather.

Common tokens of weather meete for all manner of vyts.

Some haue obserued euil weather to follow, whan as watry foules leaue y Sea despying lande: the foules of the land flying high, yeryng of foules about waters, making a great noise in their wings: Also y Seas swelling in vncustomed waues, if beasts eate greedily, if they licke their hooues: if they sodaynly moue here and there making a noise, bycethinge vp to y ayre with open nosthylls: rayne foloweth. And the busy heauinge of Bees, the appearing or comming out of wormes. Hennes resorting to the pearch or roust couered with dust, declare rayn. The ample working of the spinner in the ayre: the Ant busied with her egges: the Bees in fayre weather not far wandring, the continual prating of the Crow: chiefly twise or thise quick calling. New tēpest. When the Crow or Rauen gapeth against the Sunne in Sommer, what followeth. If they busie themselves in

In prouiding oz washing, & that in winter, loke for rayn. The vn
 custumed noise of poultry, the noise of swine, of Peacocks, de-
 clare the same. The swallow flying and beating the water, the
 chirping of the Sparrow in the morning, signify rayne. Rayne
 sodenly dyed vp. Wody coueringes straiter then of custome.
 Bels hard further then commonly, the wallowing of dogges
 the alteration of þ Cock crowing, al declare rainy weather. I
 leaue these, wanting þ good ground of the rest. If the learned
 be despyeful of the toforesayd, lette them read graue Virgil,
 Primo Georgicorum. At Bor. &c.

There be a multitude of other net extraordinarye, but of the
 best knowe causes; many for breuity here omitted, þ most part
 not mentioned, because they passe the capacity of the comon soze
 vpon al the which the Astronomer doth wel and learnedly co-
 clude. I doubt not, ther be also sometime unknown matters,
 mitigating the aforesayd, oz prouoking tempest vnloked, for,
 which neither experience, ne learning hath established. How vn-
 kinde (these considered) yea how far from worthy thanks ge-
 uing are they, which in generall headdely do blame, checking
 bitterly the Astrologer, with these Iudiciary matters, the
 least part among a number of his most certayne doinges whē
 chinges fortune contrary to expectation? Understande gentle
 Reader, þ consent of a multitude famously learned is their bac-
 ker, euen in these matters iudiciary. Who haue waped a long
 time prudently, the great strength, the vehement force, & mar-
 uailous natures of al erratical, & celestiall constellations, with
 their Angles, Radiations, Aspectes, Affections, Stations,
 Progressions, Defections, Dispositions, Applications, Pre-
 uentions, Refrenations, Contrarieties, Abscissions, Coniuncti-
 ons, Quadratures, and Oppositions &c. Therefore extreamē
 folly, yea more then madnes doth be bitter, which imbraybeth
 oz backbityeth these knowledges, not remembringe the great
 and manifold benefytes had through them, and that with most
 certaynty in al other doinges.

What Meteoproscofer, yea who learned in matters Astro-
 nomical, voteth not the great effectes at þ ryling of the starre
 called the little Dog? Truly þ consent of the best learned do-
 gre of his force, yea Plini, in his history of nature affirmeth þ
 Seas the most fierce. wines to flow in cellers, standing waters
 to

Canis minoris
 efficacia.

A generall Prognostication

Orionis, Arc-
turi, Coronæ,
Capre, fucula-
rum effectus,

☐ & ☉ ☿
cum ☉ aut ☿

☿ ☐ & ☉
cum ☿ aut ☉
☉ &c.

to moue, dogs enclined to madnes, then most woode. Farther these constellations, Orion, Afturus, Corona, ryling prouoke tempestuous weather. The Kid and Goat, winds, Hyades, or, Succule rayne. What Meteorologer consenteth not to y great alteration and mutation of ayre, at the coniunctiō, oppositiō or quadrante aspect of Saturne, with either two lights? Who is ignorant, yea meanly trauelled in Astronomy, that Iupiter is Mercurie or with the Sunne, enforceth rage of windes. What is he that perceiuech not the fearful thunders, lightnings & raies at y meeting of Mars & Venus, or Iupiter & Mars. &c. Leauē, for shame to oppugne these iudiciall & strongly auhorised. We that any other part carpech may seeme moze then mad. All truch, al experience, a multitude of infallible grounded rules are agaynst him. *Certum est omnibus que notum, quod cæli motus signorum ortus, & occasus, planetarū aspectus, & coniunctiones luminarium Eclipsis, &c. certissimam, determinatam, ac infallibilem habent causam. Quis iam sane mentis negabit eorum effectus sapa innotescere, utpote bella, famēs, grandines, aëris perturbationes, elementorum commotiones, terræ motus, & similia? Positis causis naturalibus, & non impeditis, sequitur effectus.*

The learned that listeth ingeniously to prognosticate of weather wil not onely discretely way al before wyrtten, but consider also with them the aspectes of the Planets followinge, and their Combustion in the xii. signes, with the coniunctiō of fixed starres, mansions of the Moone, Ascendent, Climes &c. Also the times or quarters of the yeare must be noted diligently (as ensuech) and iudgement accordingly pronounced.

Of the yeare deuided into 4 quarters

☿ ☿ ☿ Po-
uer ouer the
best,
☿ ☿ ☿

☿ ☿ ☿ ☿
☿ ☿ ☿ ☿ Po-
uer ouer all
times,

The Spring time is hot and moist, and continueth so longe as the Sunne is in Aries, Taurus, Gemini, which is from the tenth of March vnto the xii. of June. The Sommer is hot and drye, computed from the beginninge of Cancer to the ende of Atrgo that is from the twelke of June to the 14 of September. Haruest is cold and drye computed from the beginning of Libra to y end of Sagittary, counted from the 14. day of September to the xii. of December. Winter is cold and moist, con-

Continued frō the beginning of Capricornus, to the end of Pisces, & is from the twelfth of December, to the tenth of March.

Here followe the aspectes of the Planets
for the better iudgement of
Weather

Before I declare of Planets & the signification of aspectes, it behoueth briefly to open what I call planets, & what aspectes, and how they are Charactered & figured. Understand there be seuen moueable stars pleasaunt to the sight called Planets. & highest Saturn, then Iupiter ♃, Mars ♂, Sunne ☉, Venus ♀, Mercury ☿ and the Moone ☾, next to the Earth.

Now when I desire to expresse Saturne, I write this figure ♄ for Iupiter this ♃ for Mars thus ♂, Thus of the other as their Characters declare. All Radiations or aspectes are expresse as follow: A Coniunction thus figured ☿ and it is when another Planet is ioyned with the Sunne or Moone, or others among themselves, within one degree or lesse.

The Sextile Aspect or Radiations, is thus expresse *, & it is within 60 degrees the one frō the other. The Quadrate aspect thus □, 90 degrees distant. The Trine thus △, separated 120. degrees. The Opposition thus ☾, 180. degrees the one distant from the other.

So here they follow in order the, characters of the Planets, and Signes also.

☿ * □ △ ☾
Coniunction, Sextile, Quadrate, Trine, Opposition

♄ ♃ ♂ ☉ ♀ ☿ ☾
Saturne, Iupiter, Mars, Sunne, Venus, Mercury, Moone

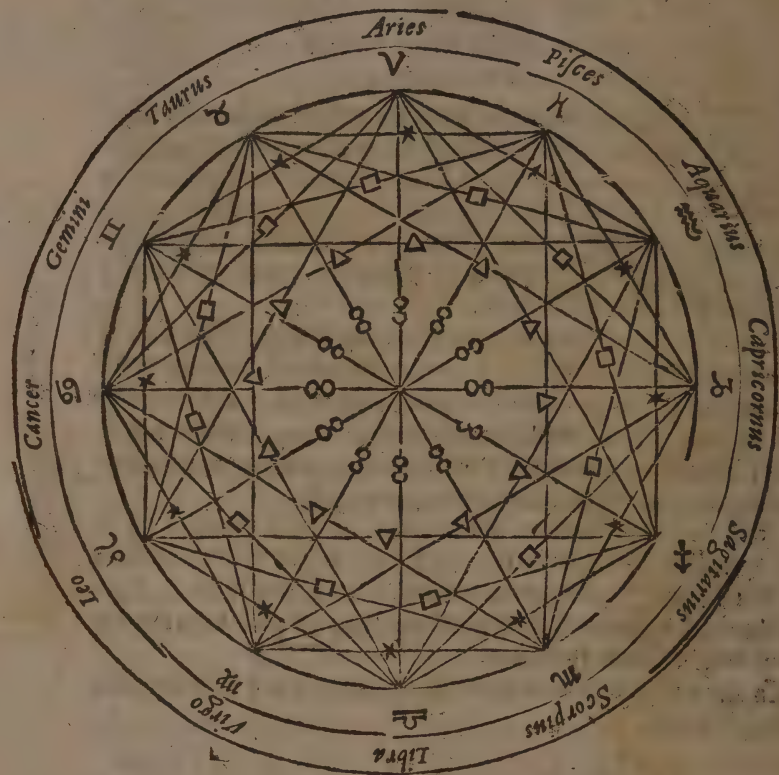
♈ ♉ ♊ ♋ ♌ ♍
Aries, Taurus, Gemini, Cancer, Leo, Virgo,

♎ ♏ ♐ ♑ ♒ ♓
Libra, Scorpius, Sagittarius, Capricornus, Aquarius, Pisces

Per

A Generall Prognostication

Yet for more playnesse behold this figure.



¶ The signification of aspectes of Planets among themselves: for the iudgement of weather.

♄ cum ♃

The coniunction or meeting of Saturne wylh Iupiter, in fiery signes, enforceth great drought. In watry signes, flouds continall rayne, generall overflowinges, &c. In appie signes, plenty of wyndes.

The

The Quadrante, Sextile, or Opposition of Saturne with
Iupiter, in moyste Signes, causeth troubled Ayre, by Hayle,
Wynde, Rayne, Thunder &c. before & after. $\text{h} \square^* \& \circ \circ$
cum h .

The Coniunction, Quadrature or Opposition of Saturne,
with Mars, in watry Signes, declare in Sommer rayne, ofte
houres with hayle, thunder and lightening. $\text{h} \delta \square \& \circ \circ$
cum δ .

The Coniunction Quadrature or Opposition of Saturne
with the Sunne chiefly in colde signes, shew darke weather,
hayle, rayne, thunder, and colde dayes. $\text{h} \delta \square \& \circ \circ$
cum \circ .

The Coniunction, Quadrature or opposition of Saturne
with Venus, in winter engender, cold and raine, principally in
moist Signes: in Sommer, mitigation of heate. $\text{h} \delta \square \& \circ \circ$
cum h .

The Coniunction, Quadrature, or Opposition of Saturne
with Mercurie, in watry Signes, bring raine, in hotte or dry
signes, drought in Sommer, thunder lightnings & tempest. $\text{h} \delta \square \& \circ \circ$
cum h .

The Coniunction, Quadrature, or Opposition of Iupiter
with Mars in moyst Signes, declare thunders, lightnings &
rayne: in winter snow, or cloudy thicke weather. $\text{h} \delta \square \& \circ \circ$
cum δ .

The Coniunction, Quadrature, or Opposition of Iupiter
with the Sunne, great and most vehement wyndes. $\text{h} \delta \square \& \circ \circ$
cum \circ .

The Coniunction, Quadrature or Opposition of Iupiter
with Venus in moyst Signes, cold and mistings, in the reste
Signes, sayze weather. $\text{h} \delta \square \& \circ \circ$
cum h .

The Coniunction Quadrature or Opposition of Iupiter
with Mercurie, great wyndes. $\text{h} \delta \square \& \circ \circ$
cum h .

The Coniunction, Quadrature, or Opposition of Mars,
with the Sunne in fiery signes, drought: in watry, thunder,
and rayne. $\text{h} \delta \square \& \circ \circ$
cum \circ .

The Coniunction Quadrature or Opposition of Mars
with Venus, in moyst signes, rayne and tempest. $\text{h} \delta \square \& \circ \circ$
cum h .

The Coniunction, Quadrature or Opposition of Mars,
with Mercurie in hot signes, great heat: in dry signes, drought
in watry, Rayne sometimes, Thunders, lightnings, and so-
dayne fierce wyndes. $\text{h} \delta \square \& \circ \circ$
cum h .

A Generall Prognostication.

♀♂□&♂
cum ♀.

The Coniunction Quadrature or opposition of Venus with Mercury causeth rayne: in Sommer they prouoke tempest, the more if they agree in watry signes. Note what is sayd of the Coniunction Quadrature or Opposition, the same is also mēt of ♄ Sextile and Trine, but they are of lesse signification, so the learned noteth.

A Declaration of Weather, by Aspects of the Moone with Planets.

♂♂□&♂
cum ♄.

The Coniunctiō, Quadrature or Opposition of the Moone with Saturne in moyst signes, bringeth a cloudy day, cold ayre according to the nature of the signe: If he go frō Saturn, to the Sunne, by coniunction or otherwise, harder weather ensueth.

♂♂□&♂
cum ♄.

The Coniunctiō Quadrature or Opposition of the Moone to Jupiter in Aries or Scorpio, sheweth fayre weather, white dispersed cloudes.

♂♂□&♂
cum ♄.

The Coniunction, Quadrature or Opposition of the Moone with Mars in watry signes, rafne. In hoate Signes, diuers coloured cloudes are made, at the Elemēt ouer. In Sommer often thunder.

♂♂□&♂
cum ☉.

The Coniunction. Quadrature or Opposition of the Moone with the Sunne in moyst Signes, rainy weather. The more if the Moone go from the Sunne to Saturne.

♂♂□&♂
cum ♀.

The Coniunction Quadrature or Opposition of the Moone with Venus, chiefly in moyst signes, rayne followeth. The Moone going from Venus to Mars, more varietie of weather.

♂♂□&♂
cum ♀.

The Coniunction Quadrature or Opposition of the Moone with Mercury in moyst signes, sheweth rayne and wynd, the more when the Moone passeth from Mercury to Jupiter: then great Windes follow.

How

How the weather is iudged by the O-
 rientall and Occidentall station of Planets, with their
 Combustion in the 12. Signes Celestiall. First
 of the Planets in Aries.



ATVRNE in Aries Combust, that is to say h in γ
 vnder the beames of the Sunne, maketh a cloudy
 darke troubled ayre: Orientall, I meane in the
 morning appearing before the Sunne, sayre wea-
 ther. Occidental, that is to say, shewing himselve
 after the Sunne going downe, betokeneth great wyndes.

Iupiter in Aries combust, a token of raine, being Occidental, u in γ
 bringeth clouds, & dewes: Orientall, sayre pleasant weather.

Mars in Aries combust and Occidental, good weather: contra- d in γ
 ry Orientall.

Venus in Aries combust Occidental, moistnes, great winds: f in γ
 Orientall thunders, and raynes.

Mercury in Aries combust, Tempest: Occidental and Orien- g in γ
 tall, sayre windy weather.

Of the Planets in Taurus.

SATVRNE in Taurus combust, and stationery, bringeth h in δ
 thicke cloudes, thunders and troublesome weather.

Iupiter in Taurus combust, indifferent weather: Occidental, u in δ
 pleasant showres.

Mars in Taurus combust, a quiet ayre: but Orientall windy. d in δ

Venus in Taurus combust, thunders, &c. Occidental, sayre. f in δ

A Generall Prognostication.

Of the Planets in Gemini.

- ♄ in ♊ SATVRNE in Gemini combust and Occidental, droughe.
 ♃ in ♊ Iupiter in Gemini combust, a good significaton.
 ♂ in ♊ Mars in Gemini combust and Occidentall heate:
 ♀ in ♊ Venus in Gemini combust Occidental, wynde.
 ☿ in ♊ Mercurie in Gemini combust, wynde.

Of the Planets in Cancer.

- ♄ in ♋ SATVRNE in Cancer combust, darcke weather, great
 winde and troublesome weathers: Occidental, calmer.
 ♃ in ♋ Iupiter in Cancer combust, bringeth calme pleasant weather
 ♂ in ♋ Mars in Cancer combust, greate heate.
 ♀ in ♋ Venus in Cancer combust, a quiet calme time.
 ☿ in ♋ Mercury in Cancer combust, tempestuous weather, chiefly on
 the Sea: Occidental, calmer.

Of the Planets in Leone.

- ♄ in ♌ SATVRNE in Leone combust, maketh wynds and mil-
 linges.
 ♃ in ♌ Iupiter in Leone combust, pleasant wyndes.
 ♂ in ♌ Mars in Leone combust, Occidentall, droughe.
 ♀ in ♌ Venus in Leone combust, droughe:
 ☿ in ♌ Mercurie in Leone combust wyndes.

Of the

Of the Planets in Virgo.

SATVRNE in Virgine combust, is a significatour of in-^{firmities,} h in m

Iupiter in Virgine combust, manifesteth aboundance of things 4 in m

Mars in Virgine combust, like unto Saturne. 3 in m

Venus in Virgine combust, drough, Oriental contrary. 2 in m

Mercurie in Virgine combust, drough, raging seas, Dec-^{dental,} 2 in m

Of the Planets in Libra.

SATVRNE in Libra combust, sheweth infirmity of sight h in h
Oriental, cold wyndes.

Iupiter in Libra combust, indifferent weather. 4 in h

Mars in Libra combust, bringeth moysture. 3 in h

Venus in Libra combust, moyst ayre. 2 in h

Mercurie in Libra combust, wyndes. 2 in h

Of the Planets in Scorpio.

SATVRNE in Scorpio combust, cold ayre: Occidental h in m
frost, Oriental, cold, North wyndes.

Iupiter in Scorpio combust, raine: Occidental, bitter weather. 4 in m

Mars in Scorpio combust, declareth moysture: Oriental, winds 3 in m

Venus in Scorpio combust, raine, both Occidental & Oriental. 2 in m

Mercurie in Scorpio, combust, raging weather, chiefly Ori^{tall,} 2 in m

Of the

A Generall Prognostication.

Of the Planets in Sagittarius.

- ♄ in ♐ SATVRNE in Sagittarius combust, colde rayne aye: Orientall, colde and frost.
- ♃ in ♐ Iupiter in Sagittarius combust, much rayne: Orientall, worse weather.
- ♂ in ♐ Mars in Sagittarius combust, drought.
- ♀ in ♐ Venus in Sagittarius combust, rayne: Occidental wind & cold.
- ☿ in ♐ Mercury in Sagittarius combust, rayne: Occidental, cleare aye.

Of the Planets in Capricornus.

- ♄ in ♑ SATVRNE in Capricornus combust, signifieth darcke weather with South winde: Occidental cold: Orientall North wyndes.
- ♃ in ♑ Iupiter in Capricornus combust, more aye: Occidental increasing the same.
- ♂ in ♑ Mars in Capricornus combust, cloudy: Occidental some heate
- ♀ in ♑ Venus in Capricornus combust, colde aye: Orientall rayne.
- ☿ in ♑ Mercury in Capricornus combust rayne, both Orientall and Occidental.

Of the Planets in Aquarius.

- ♄ in ♒ SATVRNE in Aquarius combust, cold aye: Occidental dangerous Seas, Orientall, rayne.
- ♃ in ♒ Iupiter in Aquarius combust: Occidental, rayne.
- ♂ in ♒ Mars in Aquarius combust, drought: Occidental & Oriental plenty of wyndes.
- ♀ in ♒ Venus in Aquarius combust, cloudy: Occidental hote: Orientall, rayne.
- ☿ in ♒ Mercury in Aquarius combust, snow: Occidental more colde, Orientall rayne.

Of the

Of the Planets in Pisces.

SATVRNE in Pisces combust, bringeth cloudes: Decr. h in X
dentall rayne.

Iupiter in Pisces combust Oriental, calme waters. 24 in X

Mars in Pisces combust Occidentall, brought: Oriental, light- 3 in X
ning and thunders.

Venus in Pisces combust cold, Occidentall, disposed to snow. 8 in X

Mercury in Pisces Combust moyst ayre.

Thus much of the iudgement of weather. 9 in X

¶ Seeing that I haue now sufficiently declared how, by what
rules and tokens, weather is iudged, I thinke it conuenient
to adioyne here a bziiefe collection, how Plenty, Scarcitie,
Sickenesse, Death Alterations, troubles, warres &c. are
for euer percepued.

*A Rule to Prognosticate the aforesaide, by
the falling of Newyeres day.*

Sunday.

It is affirmed of some, whē Newyeres day falleth
on the Sunday, then a pleasant winter doth ensue,
a natutal Sommer, fruite sufficient. Harvest indif-
ferent, yet some winde and rayne, many mariages:
plenty of Wine, & Honey, death of yong men and cattell, robbe-
ries in most places, newes of Prelates, of kinges, and cruell
Warres in the ende.

Monday.

On Monday, a Winter somewhat vncomfortable, Sōmer
temperate, no plenty of fruite, many fancies & fables ope-
ned, agues shal raigne: kings & many others shal die: maria-
ges shalbe in most places, and a common fall of Gentlemen.

Tuesday.

On Tuesday a stormy winter, a wet Sōmer, a diuers Har-
uest, corne & fruite indifferent, yet herbes in gardens shal
not flopye, greate sicknesse of Men, Women, and yonge
children

A Generall Prognostication.

children. Beasts shal hunger sterue, and die of the botch, many shippes, galleis and hulkes, shalbe lost: & the bloudy fluxes shal kill many men: all thinges deare saue Coine.

Wednesday.

On *Wednesday*, loe a warme winter. In the end snow & frost, cloudy Sommer, plenty of fruit, of Coine, Hare, Wyne, and hony: great payn to women wth child, and death to infants, good for sheepe, newes of kyngs, great wars, battell, and slaughter toward the middes.

Thursday.

On *Thursday*, winter and sommer windy. A rainy harvest: therefore we shal haue ouerflowings. Much fruit, plenty of hony. Wet flesh shalbe deare, cattel in generall shal dye, great trouble, warres, &c. Wth a licentious life of the feminine sexe.

Friday.

On *Friday*, winter stormy, Sommer scant pleasaunt. Harvest indifferent, little store of fruit, of wine and hony, corn deare. Many bleare eyes, poult shal dye. Earthquakes are perceived in many places, plenty of thunders, lightnings & tempest, with a sodayne death of cattell.

Saturday.

On *Saturday*, a meane wynter: Sommer very hot. A late Harvest, good cheape garden herbes, much burning, plenty of hempe, flaxe, and hony. Old folk shal dye in most places, Feuers and tercians shal greene many people, great murdering of warres, murders shalbe sodenly committed in many places, for light matters.

& Now that I haue opened diuers waies, both for I learned and vnlearned, how weether to come at al times may be well iudged & knowen. &c. I thought it mete for farther knowledge therein not to omit here the natural causes of such and so many alterations of ayre. So therefore orderly they follow.

Natu.

*Naturall causes, conducing to all the afore-
sayd, and first of the Raynbow.*

The Raynbow is the shininge and rebounding of beames of lighte, that courne to the contrary vapoure agayne in the cloude. It declareth sometime rayne, and many times sayre weather: when the one, and how the other, is before opened.

Of Rayne.

Rayne is a colde vapoure, an earthy humour, or fumositie, out of waters or earth drawn vp by the vertue of y^e Sun, to the neither part of the middle space of y^e ayre, therethrough cold thicked, thē dissolved: it is engēdred, falleth on the earth. Quare lapides? plantis, lege 2^a Pli. Lib 2^a Cap. 58.
 Heere I leaue to speake of miraculous raynes, as Milke, Bloud, Fleche, Iron, &c. For more satisfiing in these, reade Plinius in the second booke 58. Chapter.

Of Frost, and Dewe.

A Colde moyste vapoure, a litle way drawn vp in the day through faint heate of the Sūne descendeth in y^e night, dissolved on the earth, there congelated or resolved into water, the one called Frost, the other Dewe. The last is a signe of sayre weather in the Spring, or Haruest. Ros estate, pruina hiem^{is} fit.

Of Snowe.

It is a moyste vapoure, drawn vp to the middle Region of the ayre, then thicked, and frozen into the body of a cloude: so congelated, descendeth. Nix humor modicus concretus.

Of Hayle.

A Cloude resolved into Water, in the fall congelated, maketh Hayle. The higher it cometh from above, y^e the longer it tarreth in the ayre, the rounder Hayle. Gado, pluuia in descensu congelata.

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Of Wyndes.

Ventorū ergo
materia calida
& sicca exha-
latio.

Winde is a multitude of dyperhalacions, drawē vp frō
the earth and aboue the earth enforced here and there

Of Earthquakes in the most quiet time.

Quēadmodū
in nube toni-
truum, sic in
terra tremor.

Plenty of wyndes, entred into holes, cones, or caues of the
earth, which absent from aboue the earth causeth quietnes:
the violent busting out of them the earth closed againe) is þ
Earthquake: *Signum est futurorum Bellorum.*

Tokens of Earthquakes to come,

Signa terra-
motus.

A fiery cloude, appearing in the Element like a little Pillar
is a token of Earthquakes to come. The obscurity or dark-
nes of the Sunne, without cloudes, and straungely coloured,
bloudy or other wylse, is a token of Earthquakes.

Also when Well water and others are troubled or salt, or
infected by sanour. &c.

A great quietnes of ayre, by land and sea, & chiefly the long
absent of wyndes.

Also straunge noises hard, as clamours of men, rushing of
harnesse, mourninges, lamentacions. &c. All these haue bene
observed, to signify Earthquakes at hand.

Of Thunders and Lightnings.

Falgetrā prius
certū, quā to-
nitruū audiri, cū
simul fiant cer-
tū est, Pl. lib. 2
Cap. 55, contra
Aristo.

Thunder is the quenching of fyre, in a cloud. D: consider is
an exhalation, hot & dry, mixt wth moisture caried vp to
the middle Region, there thicked and wrapped into a cloud: of
this hotte matter coupled wth moistnes, closed in the cloud, gro-
weth a strife, the heate beating, and breaking out the sides of þ
cloude wth a thundring noise: the fyre then dispersed, is the
lightninge. Thus say the learned. *Tonitrum sonitus est, qui edi-
tur quando nubem rumpit halitus. Fulmen flamma vel repentinus
est ignis, qui ex collisione nubium, aut ruptura nascitur.* Aristotle
demeth the lighening after þ thunder, but the fire doth first
appare, in that the sight is before the hearing. If this sa. is so
not, read the second of his Meteoron. Here followeth a note of
lyghs.

Lightnings.

*There be three kindes of Lightnings,
dry, moist, and cleare.*

DRy do not burne but cleaue, depart or deuise. Moyste burne not but alter colour. The Cleere are of marueylous natures, ful barrels by it are emptied. It melteth money in y^e purse it breaketh the sword, the purse and scaberd not perished, yea ware in them bnmolten.

Note?

Of the Comets or flames in the Nighte.

A Comet is a flame working in a dry, hot, slymie exhalation drawe up to the highest part of the ayre. This matter of substance after it is spent, disperfed, prouoketh wynds.

Ventorum
causa.

The naturall cause of the Sunne Eclipsed.

Nothing els is the Eclipse of the Sunne, but y^e direct putting the body of the Moone betwene the Sunne and the earth, or betwene our sight & the Sunne which chaunceth onely at the change.

A Corollarie,

By this gather the darkenisse at Christs death, not to stand by naturall Ecciptical cause: but by supernaturall, or Miracul: for it was at the full Moone, y^e Scriptures witness which enforced Dionisius Arcopagita, at the tyme of hys passion, to speake thus. *Ant Deus nature patitur, aut mundi machina dissoluitur.*

Miracle.

The cause of the Moone Eclipsed.

The Sunne being in the contrary point to y^e full Moone, enforce the shadow of the earth then directly put betwene the Sun & the Moone, to ward y^e Moone, hiding more or lesse of the Moone, as she differeth from the Ecciptical. Some obserue pestilent plagues, sodayne battayle, greate dearthe, to ensue these Eclipses: which all I desire G D D to auerte from his chosen: Many ocher thynges by these Eclipses are gathered, as Longitudes of Countreys, the Quancity of the Sunne, contayning the bignesse of the Earth 162. tymes the

Vniuersalis
est Eclipsis
Lunc. Nō sem
per in noui Lu
nio, sed in ca
& cauda.

A Generall Prognostication

Compass of the earth. 21600 miles, whose thickness, according to Archimedes rule is. 6872. miles, & eight eleventhes of a mile.

The quantitie of the Moone is the 43. part of the Earth.

The Sunne containeth the Globe of the Moone 7000. times.

Omniū planetarum ad terrā magnitudo.

Saturnus comprehendeth the bignes of the earth. 91. times, Iupiter. 95. times, Mars, once, and ten sixtenthes. Venus the. 37. part. Mercury, one. 32000. part of the earth.

Note here, that Alfraganus affirmeth the leaste fixed Starre perfectly scene, as bigge as the whole earth.

Dimetiens Orbem ad terrę dimetiētem 11. ad. 2.

Cubus Orbis 1331 terre. 8.

*H*æc non erunt admirationi si Globi capacitatem ex longitudine Diametri quaesieris. Continet enim solis dimetiens, terra dimetientem quinq̄ies & semissem. Estque proportio diametri Solis ad terrę dimetiētem, quę est numeri undecim ad duo, quintupla sesquialtera. Cubus solis mille tercentum unam & triginta partes tales continet, cuiusmodi terra Cubus octonas complectitur. Cubus enim numeri undecim, est mille tercentum unum & triginta. Cubus vero binarij, qui est terra, octo Subducto quoties id fieri potest, minore Cubo qui est terra, octo Subducto quoties id fieri potest, minore Cubo qui est terra, a minore qui est solis cognoscitur Cubi ad cubū proportio; & quanto Sol maior terra sit. Inuenimus ergo octo centies, sexagies sexies, in mille tercentum uno & triginta.

Dimetiens terrę ad diametrum ad 5. Cubus terrę 4913. Cubus 125.

Terrę Diametros Luna dimetientem complectitur ter, & duas eius diametri portiones quintas; estq; ea proportio dimetiētis terrę ad Lunę diametrum, quę est septēdecim ad quinque tripla superbi partiens quintas. Cubus numeri septēdecim est quarter mille nongenta terdecim. Cubus numeri quinque est ceterum viginti quinque. Minore Cubo per minorem distributo, reperimus numerum centū viginti quinque, tricies novies in quater mille nongentis terdecim; quod paululum a superioribus obseruationibus differt.

The quantities, or rather true proportion of all the Planets vnto the Earth, ocularly demonstrated by figure followe.

inge.

The Globe



Earth.



Mars.



Venus or the Mone

The globe of
Saturne or
Iuypter

Mercury is but adovnt in respect of
these Quantities.

A generall Prognostication

By these five Globes are represented true magnitudes of 7. Planets. One Globe of like magnitude appointed for Saturne, & Iupiter. Euen so for the Moone, & Venus, the rest haue several Globes, (as ye may see) according to their quantities.

*The nature, course, colour, and placing of these
seuen Planets, according to Ptolomei*

SATVRNE is the highest and slowest in proper motion, cold, dry, and pale, like vnto leade colour requyringe thirty yeres to ende his course. Di. 9. ad. 2.

IVPITER is next vnder Saturne temperate, fayre and bright: his course is persourmed in .12. yeres. Di. 32. ad. 7.

MARS is hote and dry of fiery coloure, in two yeres endeth his course. Di. 7. ad. 6.

THE Sunne is placed in the middle of all the Planets: most cleare and bright, the well of pure light: euerie yere finishing his course. Di. 11. ad. 2.

VENUS is next to the Sunne cold moist, and cleare, yea more brighte then Iupiter, his course is like vnto the Sunnes: neuer aboue eight and forty degrees from the Sunne, called the Morninge Star when she goeth before the Sunne, comming after the Sunne, she is named the Euen starre. Di. 3. ad. 10.

MERCURY is next vnder Venus, somewhat shininge, but not very bright: neuer aboue .29. degrees from the Sunne, his course, is like to Venus, or the Sunnes motion.

THE Moone is lowest of all the seuen, running ouer the whole Zodiacke in .27. dayes and 8. houre and somewhat more. Di. 5. ad. 17.

For more playnnesse of that which is opened, nowe shall followe a figure by the which yee may perceyue how the Orbe of the one Planet compasseth the other. Also how these Planets are placed in the Heauen, yea which Planet is highest from the earth, and which neerest vnto vs. Consider well this figure, so needeth no farther declaration,



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Wee may here behold first the Elemental part subiect vnto alteration, consisting of the foure Elements, first Earth & Water, whereon we are, then Ayre & Fire. Then foorth the Ethereal part (which the Philosophers call *quinte essence*) containeth the. 10. Dybes: the bigger compasseth the next lesser, as the figure before sheweth. It beginneth at the Moone, then Mercury, Venus, &c. in height more & more. As the figure declareth Saturne to be the highest Planet, so is the Moone lowest.

The distaunce or myles that the Moone is from the Earth, and euery Planet from other.

AS some haue published, It is frō the Earth to the Moone, 15750. miles.

Hac incredibilia videntur
tatum hijs, qui
Mathematicis
demonstrationibus
non assueuerunt, &c.

From the Moone to Mercury, is. 12812. myles.

From Mercury to Venus, as many myles.

From Venus to the Sunne, is. 23437. myles and a halfe.

From the Sunne to Mars, is. 15725. myles.

From Mars to Iupiter, is. 78721. myles.

From Iupiter to Saturne, as many myles.

From Saturne to the Firmament, 120485. myles, &c.

The whole sum from the Earth to the Firmament, is. 35845. myles and a halfe.

Here demonstration might be made of the distaunce of these Dybes, but that passeth the capacity of the common sort.

The natural operations of these Planets by Coniunction, Opposition, &c. ensueeth: But more largely of me opened in a pleasant booke shortly to be published. First here will I endeavour natural causes of many Sunnes and Moones then of the Planets by Coniunction.

The naturall causes of many Sunnes, or Moones.

Milichius noteth the kinge of Pole to haue scene 6. Sunnes at ones.

These come to passe, when a thicker cloude is gathered towa'rd the side of the Sunne or Moone, in the which the broken beames of the Sunne do leaue the fashion and veriforme of that Sunne. Thus as followeth, saith Plinius in the second booke of the Vision of Nature, 31. Chapter. As many Sunnes are perceived in our time then

by the

three, and they are neuer seene, either aboue or beneath the Sunne, but on the sides: neuer in the night but onely at the Sunne rising or going downe.

What is to bee chosen or auoyded vnder enerye aspecte of the Moone, with her signification in the 12 signes touching the same.

She Coniunctio, Quadrature or Opposition of Saturn $\text{H} \square \odot$ with the Moone, causeth an euil vnluckye daye for all ^{cum D} matters. Leauetherfore to haue to do any maner way nothing shal prosper or come wel to passe then attempted. Yet the Sextile or Trine of Saturne with $\text{H} \times \Delta$ Moone, declar- ^{cum D} eth a conuenient time to til, delue, or digge, to sow to lay foundations to erect or repayre houses, yea a meete time to obtain suites of fatherly fauours. The Moone in Capricornus or A ^{D in V vel} quarius, bringeth this latter effect of the Sextile & Trine.

The Coniunction, Sextile, Trine, Quadrature or Opposi- $\text{H} \delta \Delta \square$ tion of Iupiter with the Moone, sheweth a fortunate day chief ^{vel \odot cum D} ly to obtain suites of Kinges noble Princes, Prelates, of lawyers and Religious persons: and a mete, time to study to iourney, to take an honest matter in hand. The Moone in Taurus, ^{D in \Omega vel F} in Leo or Sagittarius, sheweth the same.

The Coniunction, Sextile, Trine, Quadrature, or Opposi- $\text{H} \delta * \Delta \square$ tion of Mars with the Moone, warneth thee not to matche ^{vel \odot cum D} thy selfe H day with warriours notwithstanding verie good & most meete to finishal manner fiery workes, nought to iourney yet most conuenient for valiant captayns to worke their fear, to leade, encourage or stomack their souldiers moste vnnieete to to create peace, to take seruantes, or to seeke friendship.

The Coniunction, Quadrature, or Opposition of the Sun $\odot \square \odot$ with the Moone declareth a very unhappy day for al matters ^{\odot cum D} therfore attempt nothing, ne any maner suite, neither plante, build, ne iourney. Yet the Sextile and trine are very fortunat specially to obteyn suite of kinges Princes and other Nobles. ^{D in V} The Moone in Aries enforceth the effect of this later part.

The Generall Kalender.

♀♂*△□
vel ☉ cum ♀

The Coniunction, Sextile, Trine, Quadrature, or Oppositio
of Venus with the Moone, causeth a daie most apt to obtayne
all suites of women, good to woo, to attempt mariage, & to fol-
low all maner pleasures, and pl^asaunt pastimes: not vnmeet
to hire seruants, to let bloud &c. The Moone in Libra or Pisces
prouoketh the like.

♀♂*△□
vel ☉ cum ♀

The Coniunction Sextile, Trine, Quadrature or Opposi-
tion of Mercury with the Moone, promisseth a fortunate happy
day to Buy and Sel, very good to entre Childzen in Liberall
arter, an apt time for y^e versifier: good to vse Marchaundise, to
journey to send ambassage, to geue accomptes and suche like.

♂ in ☿ vel
☿

The Moone in Gemini, Cancer, or Virgo, euclineeth euen
to the same asforesayd.

♂ cum ♀

The Moone with the Dragons head, sheweth a luckye day e
for all matters, with the rayle contrary.

¶ Now ensueth a Table Shewing what signe the
Moone is in and shalbe for euer, declaring
also the meetest time to let Bloud to
Purge and to Bath,

The Table hath at the head seven titles. The first monethes
the second dayes, then the Prime: The twelve Signes: the
titles to let Bloud: to Purge, and to Bathe

Here it is to be noted, that those daies are good for these pur-
poses, which be signed with this letter G: and those euil dayes
that are noted with B.

This

¶ This Table declareth for ever, in what Signe the Moone is or shall
be at any daye in the yeare. It serueth also very well
to let Bloud, to Purge, and Bathe.

Monethes.	Dates.	Prime.	The 12. Signes.	To let Bloude	To Purge.	To Bathe.
Febr. Nouē.	1	3	Aries.	G	B	G
Marche.	2		Aries.	G	B	G
	3	14	Taurus.	B	B	B
Decembre.	4	6	Taurus.	B	B	B
	5		Gemini.	B	G	
Aprill.	6	17	Gemini.	B	G	
	7	9	Cancer.		G	G
Maie.	8	1	Cancer.		G	G
	9		Cancer.		G	G
	10	12	Leo.	B	B	G
	11	4	Leo.	B	B	G
Iune.	12		Virgo.	B	B	B
	13	15	Virgo.	B	B	B
Iuly.	14	7	Libra.			
	15		Libra.			
	16	18	Scorpius.		G	G
	17	10	Scorpius.		G	G
Auguste.	18	2	Scorpius.		G	G
	19		Sagittarius.	G		G
	20	13	Sagittarius.	G		G
	21	5	Capricornus.	B	B	B
Septembre.	22		Capricornus.	B	B	B
	23	16	Aquarius.			G
Ianua. Octo.	24	8	Aquarius.			G
	25		Pisces.		G	G
	26	19	Pisces.		G	G
	27	11	Pisces.		G	G

The Generall Kalender.

Seeke out vnder the titles of the Monethes, the name of the moneth, whose day you must looke outright agaynst the moneth, vnder the title of dayes, & there begin to tel downwards 1. 2. 3. &c. to the end, if it so require, and then fro the beginning if neede bee, vntil you haue reckned the number of the day that you seke. Loke what number it falleth vpon in this table vnder the title of daies that number kepe in mind. Then seke vnder the title of the Prime, the golden nūber for the yere right agaynst that leftward vnder the titles of Dayes, beginne to tel downwards 1. 2. 3. &c. vntil you haue reckned the number which you did keepe in mind. Agaynst that towardes your right hand vnder the Title of Signes is the signe wherin the Mone shal be the day. Euen then vnder the other titles, yee shal fynde in righte order for Letting blood, for Purging and Bathing, according as they be noted with *G* which is good, and *B*. signifyeth bad.

Ensample.

The first day of March in the yere of our lord 1555 I desire to know what celestiaall signe the moone doth then occupie. I find first the name of the Moneth, & is, March: and the daye as followeth, in the next order of this table. I beginne here to tel right agaynst my moneth, at the figure of 2. saying 1. 2. 3. &c. so I haue at the ende, & compte of fixe dayes this figure 7. which I kepe in mind. Now I must seeke out the Golden nūber for the yere aforesaid. vnder the title of the Prime here, & is 17. agaynst the which on the left side is 6. There you must begin agayne to compt: 1. 2. 3. &c. vntil you come to your number 7. So on your right hand in the row or order you shal see Virgo, the Celestiaall Signe that the Mone is in and after these three letters *B* which declare bad or euil to let Blood, to purge or Bath agreeable to the titles in the head *G*. there had signified good.

As for as much as letting of Blood, Purging and bathing, Inundations: Flouds. Timber falling, Sowing, plāting, Grasing, cutting &c. depend chiefly on the Signe wherin the Mone is, which I haue euen before plainely opened, I thoughte it, meete to haue them now orderly touched, as followeth

A con.

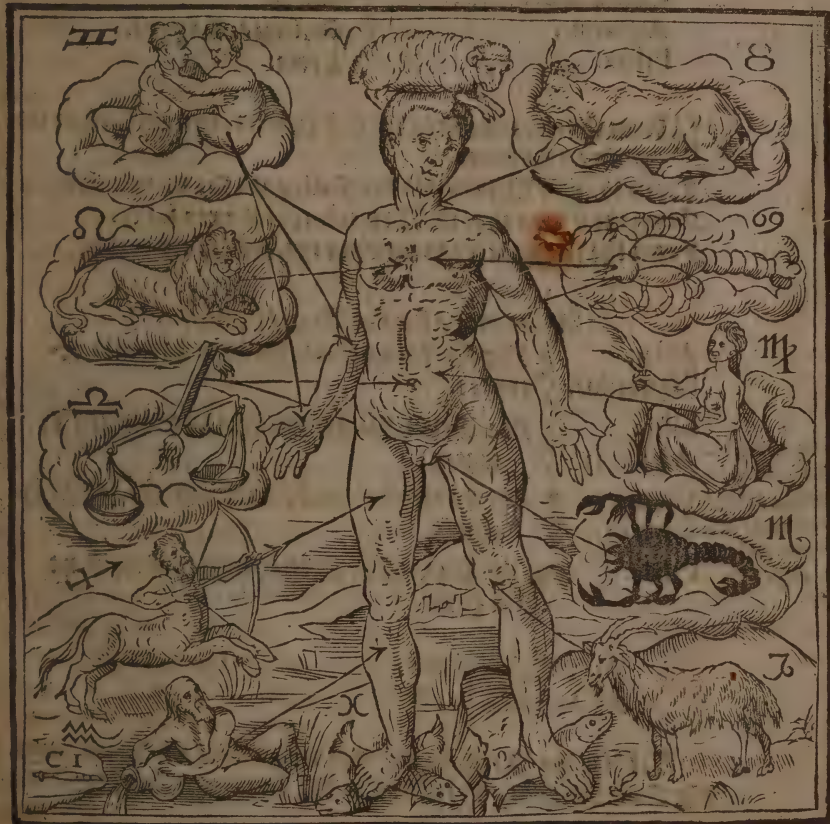
LEt bloude at no time without greate cause, for it bzingeth weaknes and many infirmities. If ye do see it be after good digestion, & fasting in a faire temperate day beware before, of al maner exercise, Bathings, watchings, & carnal copulatio. After vse fine meates of light digestion, abstaining from al þ aforesaid, vntil the fourth day.

These Signes are most daungerous for bloud lettunge the Moone being in the Taurus, Gemini, Leo, Virgo, & Capricornus. with the last halfe of Libra and Scorpius, The rest are all good: so the Moone beare no Dominion in that member which ye cut. As followeth.

Behold this figure.

Malum minui
vel purgatio-
nibus uti, tem-
pere caloris
propter defe-
ctū humoris

I to let blond
in 8 II 9
III IV



Profitable Rules

The Dominion of the Moone in Mans Body.

Aries.	} THE {	Head and Face.
Taurus.		Necke.
Gemini.		Armes, Handes, Shoulbers.
Cancer.]		Brest, Stomacke, Ribbes,
Leo.		Hart, Backe.
Virgo.		Bowels, belly.
Libra.		Raynes, Hauill, Buttockes.
Scorpius.		Secrete members.
Sagittarius.		Thies.
Capricornus		Knees.
Aquarius.		Shinnes, Legges.
Pisces.		Feete.

From the chaunge to to the first quarter, a meete time to let young men bloud.

From the first Quarter to the Fall, good for middle age.

From the Full to the last Quarter, apt for aged folke.

From the last quarter to the chaunge, best for old men.

Signes meete for the Complexions.

Aries.	}	For the Fleumaticke, the head and this ex-
Sagittarius.		cepted.
Libra	}	For Melancholike: buttockes and legges ex-
Aquarius		cepted.
Cancer	}	For Cholerike brest, members and feete ex-
Scorpio		cepted.
Pisces.		For the Sanguine, all be apt that tofore be na-
		med good.

Hæc diligētis-
sime obseruare
oportet solertē
Medicum; nisi
maiora pericu-
la cogant

In the spring time, let bloud at the right syde.

In Haruest time, at the left syde.

The learned Physician wil consider, besyde all that is sayd,
the Coniunctions, opposition, & Quatraspect aspects of the Pla-
nets

netts. With many other things, Astronomically, most necessary both in Bloudletting, Purgings, Bathing, &c.

For to take Purgation, and to Bathe.

The meetest time to take purgation &c. is neither in hotte nor cold dayes, that is from the tenth of March, to the xii of June.

Further by rules Astronomical, it must be performed whē good to purge the Moone is in cold, moist, and watry signes, as Cancer Scorpius: comforted by Aspects and radiations of Planets, fortifying the vertue of the body expulsive. S m K.

The Moone in Aries, Taurus, & Capricornus, naught. One cause of vomitting, the Purgation is, if the Moone haue aspect to any Planet retrograde. Bad to purge
V & W.

The Moone in these Signes following, very good to Bathe Aries, Leo, Sagittarius, Cancer, Scorpius & Pisces. Good to bath
V R 7 S

These ensuing are evil to bath Taurus, Virgo & Capricornus. m K.
Bad to Bathe
S m 4

Of Inundations, or Floods, of Timber falling, Sowing, Planting, Graffing, Heare clipping, Shaving and Gelding.

The flood is biggest at y full: because then dispersing her vertue, she filleth all places w moisture: Be common experience, toynd with learning I knowe at y full y Moone lodeth all bodies with humors, & so are emptied, growing to the chaunge. Of this some gather the fall of timber at the chaunge, moze to the purpose then other times wanting then superfluous moisture, the cause of putrefaction. *Omnis putredo ab aqua humido ortum habet.* Schoner. willetch from the 15. day vnto the 22. day of the Moone, trees to be felled, & thereafter vntill somer to January. So timber is strong sounde, and body of wormes.

To Sow Taurus, Cancer, Virgo Libra, and Capricornus are best in the increase of the Moone. Good to sow.
S S m 2 W

To Plant or Graffe, is best, when the Moone hath her being, in any fixed signe, either in Taurus or Aquarius, in the encrease of the Moone. To plant or
graffe: S m

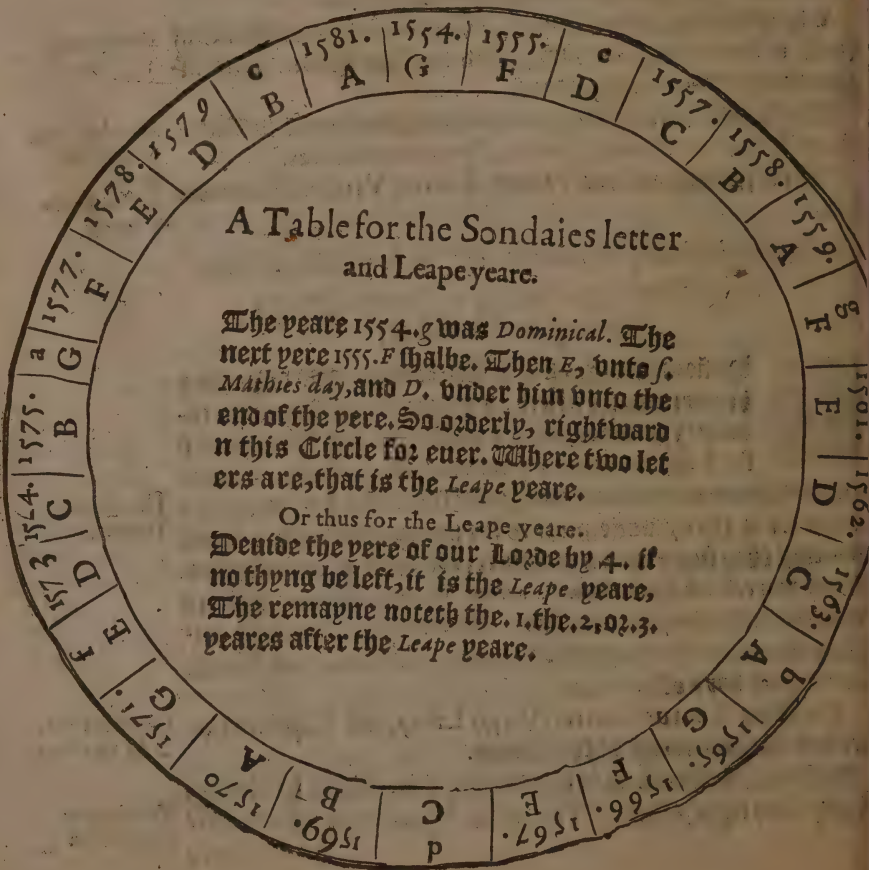
The fall of
Timber.

Profitable Rules

Haire ene groweth wel, the Moone encreasing being in Tau
rus, Virgo or Libra,.

Cutting, hauing, clippinge in the wane causeth balones, what is then cut groweth little. *Caluitium prohibet oleum Tarsari* The best time of Cutting is in Cancer, Scorpio or P'fces in the wane.

These two rounde Tables that now ensue
conduce to the rest following.



When yee haue gone rounde about the yeares,
of these two Tables, begin againe.



The prime.	The sondaies letter.	The first Lent son daye.	Easter. daye.	Rogas tion.	whitson tide.	Betwixt whitson & midso.
16		Februarie.	Marche.	April.	Maye.	wk. daies
5	d	8	22	26	10	6 3
	e	9	23	27	11	6 2
13	f	10	24	28	12	6 1
2	g	11	25	29	13	6 0
	A	12	26	30	14	5 6
10	b	13	27	May. 1.	15	5 5
	c	14	28	2	16	5 4
18	d	15	29	3	17	5 3
7	e	16	30	4	18	5 2
	f	17	31	5	19	5 1
15	g	18	April. 1	6	20	5 0
4	A	19	2	7	21	4 6
	b	20	3	8	22	4 5
12	c	21	4	9	23	4 4
1	d	22	5	10	24	4 3
	e	23	6	11	25	4 2
9	f	24	7	12	26	4 1
	g	25	8	13	27	4 0
17	A	26	9	14	28	3 6
6	b	27	10	15	29	3 5
	c	28	11	16	30	3 4
14	d	Marche. 1.	12	17	31	3 3
3	e	2	13	18	June. 1.	3 2
	f	3	14	19	2	3 1
11	g	4	15	20	3	3 0
	A	5	16	21	4	2 6
19	b	6	17	22	5	2 5
8	c	7	18	23	6	2 4
	d	8	19	24	7	2 3
	e	9	20	25	8	2 2
	f	10	21	26	9	2 1
	g	11	22	27	10	2 0
	A	12	23	28	11	1 6
	b	13	24	29	12	1 5
	c	14	25	30	13	1 4

*The vse of this Table appoynted for the
moueable Feastes.*

This Table containeth in the first Title the Prime: in the second, the Dominical letter: in the third, Lent, in the fourth Easter day, in the fifth, Rogation day, in the sixth Whitsonday: in the seventh, howe manye Weekes and dayes are betweene Whitsonday and Midsummer. Which al appeare by their Titles.

We shal consider by the litle round Table befoze put foorth, what nūber the Prime is that yere, wherof ye desyre to know all these aforesayd, and seeke that number vnder the first title of this table ensuing. Then seeke vnder the second the Dominical letter next after the Prime for that yere, whiche title ensueth the Prime. Directly agaynst the same dominicall letter towardes your right hand in the same lyne, ye shal fynd vnder the titles, what Moneth and day, euery one of these aforesayd shall happen.

Ensample.

I would know this yere of our Lord. M.D.LX. these moueable feastes, the first Lent Sonday, Easter day, Rogation dayes, Whitsonday, and how many weekes betwixt Whitsonday and Midsummer day. First I fynd the Prime this yere xvii. which xvii. I loke out vnder the title of Prime in the Table befoze. Then I seeke in the next order (and after the Prime for the Dominical letter that yere. Now in right order, according to the Titles. I fynd the third of March to be the first Lent Sonday: the xiiii. of April Easter daye: the xix. of May, Rogacion, the ii. of Iune, Whitsonday, and iiii. weekes & one day betwixt Whitsonday and Midsummer day. Thus for ener.

The prime.	The sondaies letter.	The first Lent son- daye.	Easter. daye.	Roga- tion.	whitson- tide.	Betwixt whitson- & midso.
16		Februarie.	Marche.	April.	Maye.	wek. daies
5	d	8	22	26	10	6 3
	e	9	23	27	11	6 2
13	f	10	24	28	12	6 1
2	g	11	25	29	13	6 0
	A	12	26	30	14	5 6
10	b	13	27	May. 1.	15	5 5
	c	14	28	2	16	5 4
18	d	15	29	3	17	5 3
7	e	16	30	4	18	5 2
	f	17	31	5	19	5 1
15	g	18	April. 1	6	20	5 0
4	A	19	2	7	21	4 6
	b	20	3	8	22	4 5
12	c	21	4	9	23	4 4
1	d	22	5	10	24	4 3
	e	23	6	11	25	4 2
9	f	24	7	12	26	4 1
	g	25	8	13	27	4 0
17	A	26	9	14	28	3 6
6	b	27	10	15	29	3 5
	c	28	11	16	30	3 4
14	d	Marche. 1.	12	17	31	3 3
3	e	2	13	18	June. 1.	3 2
	f	3	14	19	2	3 1
11	g	4	15	20	3	3 0
	A	5	16	21	4	2 6
19	b	6	17	22	5	2 5
8	c	7	18	23	6	2 4
	d	8	19	24	7	2 3
	e	9	20	25	8	2 2
	f	10	21	26	9	2 1
	g	11	22	27	10	2 0
	A	12	23	28	11	1 6
	b	13	24	29	12	1 5
	c	14	25	30	13	1 4

*The vse of this Table appoynted for the
moueable Feastes.*

This Table containeth in the first Title the Prime: in the second, the Dominical letter: in the third, Lent, in the fourth Easter day, in the fifth, Rogation day, in the sixth Whitsonday: in the seventh, howe many Weekes and dayes are betweene Whitsonday and Midsummer. Which all appeare by their Titles.

Ye shal consider by the litle round Table before put forth, what number the Prime is that yere, wherof ye desyre to know all these aforesayd, and seeke that number vnder the first title of this table ensuing. Then seeke vnder the second the Dominical letter next after the Prime for that yere, whiche title ensueth the Prime. Directly agaynst the same dominicall letter towardes your right hand in the same lyne, ye shal fynd vnder the titles, what Moneth and day, euery one of these aforesayd shall happen.

Ensample.

I would know this yere of our Lord. M.D.LII. these moueable feastes, the first Lent Sonday, Easter day, Rogation dayes, Whitsonday, and how many weekes betwixt Whitsonday and Midsummer day. First I fynd the Prime this yere xvii. which xvii. I loke out vnder the title of Prime in the Table before. Then I seeke in the next order (and after the Prime for the Dominical letter that yere. Now in right order, according to the Titles. I fynd the third of March to be the first Lent Sonday: the xiiii. of April Easter daye: the xix. of May, Rogacion, the ii. of Iune, Whitsonday, and iiii. weekes & one day betwixt Whitsonday and Midsummer day, Thus for ener,

Profitable Rules.

*How to know the age of the Moone,
then the chaunge, and Quarter
for ever.*

First learne the Epact (as I haue instructed) for that yere yo
seeke to know the age of the Moone, then reckon how many
dayes is past of y^e moneth, which day ye desyre to know y^e age.
Put that number to the Epact, Then begin at Marche and rec-
ke for euery moneth from him orderly one, vntil your sayd day,
includinge both the moneth of Marche, and also the moneth of
your sayd day. Adde all these dayes vnto your former number:
putting away as many thirty dayes as ye fynd. The rest is the
age of the Moone. The age found, the chaunge is knowne.
If ye adde vii dayes to the chaunge, ye haue the first quarter,
then 7 dayes, and somewhat moze, sheweth the Full: and so to se
adding 7 and moze, byngeth the last quarter thus by 7 vnto y^e
new Moone.

Ensample.

The x. day of January, the yere then being M.D.L.V:
I desyre the age of the Moone, I find the Epact vntil Marche,
ensuing to be xxxvi. that added vnto x. maketh xxxvi. then xi. for
the monethes from Marche to January, includinge both Moone-
thes, byngeth xlviij, now thirty pulled away leueth xliij. the
age of the Moone.

*Now ensueth two perfect tables declaring the
true houre and minute of Ebbing and
flowing in most Coastes of
England.*

Quin South- ampton. Ports- moth.	Redban Aberdē	Graues ende.	Dūdec. S. And.	Age of the Moon	London Tinnot Hertle pole.	Ber- wyke.	Erith. Lyeth. Dūbar.	Falmot
South.	Sbw.	SSw.	Sw b S		Sw.	Swbw	wSw	w b S.
H. M.	H. M.	H. M.	H. M.)	H. M.	H. M.	H. M.	H. M.
12 48 1	33 2	18 3	3 1	3 48 4	33 5	18 6	3	
1 36 2	21 3	6 3	51 2	4 36 5	21 6	6 6	51	
2 24 3	9 3	54 4	39 3	5 24 6	9 6	54 7	39	
3 12 3	57 4	42 5	27 4	6 12 6	57 7	42 8	27	
4 0 4	45 5	30 6	15 5	7 0 7	46 8	30 9	15	
4 48 5	33 6	18 7	3 6	7 48 8	33 9	18 10	3	
5 36 6	21 7	6 7	51 7	8 36 9	21 10	6 10	51	
6 24 7	9 7	54 8	39 8	9 24 10	9 10	54 11	39	
7 12 7	57 8	42 9	27 9	10 12 10	57 11	42 12	27	
8 0 8	45 9	30 10	15 10	11 0 11	45 12	30 1	15	
8 48 9	33 10	18 11	3 11	11 48 12	33 1	18 2	3	
9 36 10	21 11	6 11	51 12	12 36 1	21 2	6 2	51	
10 24 11	9 11	54 12	39 13	1 24 2	9 2	54 3	39	
11 12 11	57 12	42 1	27 14	2 12 2	57 3	42 4	27	
12 0 12	45 1	30 2	15 15	3 0 3	45 4	30 5	15	
12 48 1	33 2	18 3	3 16	3 48 4	33 5	18 6	3	
1 36 2	21 3	6 3	51 17	4 36 5	21 6	6 6	51	
2 24 3	9 3	54 4	39 18	5 24 6	9 6	54 7	39	
3 12 3	57 4	42 5	27 19	6 12 6	57 7	42 8	27	
4 0 4	45 5	30 6	15 20	7 0 7	45 8	30 9	15	
4 48 5	33 6	18 7	3 21	7 48 8	33 9	18 10	3	
5 36 6	21 7	6 7	51 22	8 36 9	21 10	6 10	51	
6 24 7	9 7	54 8	39 23	9 24 10	9 10	54 11	39	
7 12 7	57 8	42 9	27 24	10 12 10	57 11	42 12	27	
8 0 8	45 9	30 10	15 25	11 0 11	45 12	30 1	15	
8 48 9	33 10	18 11	3 26	11 48 12	33 1	18 2	3	
9 36 10	21 11	6 11	51 27	12 36 1	21 2	6 2	51	
10 24 11	9 11	54 12	39 28	1 24 2	9 2	54 3	39	
11 12 11	57 12	42 1	27 29	2 12 2	57 3	42 4	27	
12 0 12	45 1	30 2	15 30	3 0 3	45 4	30 5	15	
North.	N b E N n E N e b N))			N E N e b E N e E b N			

Foy Lin. Hüker. weimot. Dertm. Plimot.		Milfo. Bridge water.	Portl. Peter. porte.	Age of the Moone.	Orkn. Pole. Or. wel.	Diep. Lux. Le. noys.	Boloig. Douer. Harwich Yarmot.	Calice.
East.	Ebs.	EsE	Sebe		SE	Sebs	SsE	SbE
H. M.	H. M.	H. M.	H. M.)	H. M.	H. M.	H. M.	H. M.
6 48	7 33	8 18	9 3	1	9 48	10 33	11 18	12 3
7 36	8 21	9 6	9 51	2	10 36	11 21	12 6	12 51
8 24	9 9	9 54	10 39	3	11 24	12 9	12 54	1 39
9 12	9 57	10 42	11 27	4	12 12	12 57	1 42	2 27
10 0	10 45	11 30	12 15	5	1 0	1 45	2 30	3 15
10 48	11 33	12 18	1 3	6	1 48	2 33	3 18	4 3
11 36	12 21	1 6	1 51	7	2 36	3 21	4 6	4 51
12 24	1 9	1 54	2 39	8	3 24	4 9	4 54	5 39
1 12	1 57	2 42	3 27	9	4 12	4 57	5 42	6 27
2 0	2 45	3 30	4 15	10	5 0	5 45	6 30	7 15
2 48	3 33	4 18	5 3	11	5 48	6 33	7 18	8 3
3 36	4 21	5 6	5 51	12	6 36	7 21	8 6	8 51
4 24	5 9	5 54	6 39	13	7 24	8 9	8 54	9 39
5 12	5 57	6 42	7 27	14	8 12	8 57	9 42	10 27
6 0	6 45	7 30	8 15	15	9 0	9 45	10 30	11 15
6 48	7 33	8 18	9 3	16	9 48	10 33	11 18	12 3
7 36	8 21	9 6	9 51	17	10 36	11 21	12 6	12 51
8 24	9 9	9 54	10 39	18	11 24	12 9	12 54	1 39
9 12	9 57	10 42	11 27	19	12 12	12 57	1 42	2 27
10 0	10 45	11 30	12 15	20	1 0	1 45	2 30	3 15
10 48	11 33	12 18	1 3	21	1 48	2 33	3 18	4 3
11 36	12 21	1 6	1 51	22	2 36	3 21	4 6	4 51
12 24	1 9	1 54	2 39	23	3 24	4 9	4 54	5 39
1 12	1 57	2 42	3 27	24	4 12	4 57	5 42	6 27
2 0	2 45	3 30	4 15	25	5 0	5 45	6 30	7 15
2 48	3 33	4 18	5 3	26	5 48	6 33	7 18	8 3
3 36	4 21	5 6	5 51	27	6 36	7 21	8 6	8 51
4 24	5 9	5 54	6 39	28	7 24	8 9	8 54	9 39
5 12	5 57	6 42	7 27	29	8 12	8 57	9 42	10 27
6 0	6 45	7 30	8 15	30	9 0	9 45	10 30	11 15
VVest.	wbn	wnw	nwbw)	nw	nwbw	nww	nbw

When you wil know the ful Sea, seeke out the name of the place, where you desyre the ful water in the head of the tables: Or learne the poyntes of the compasse there noted: Or if you list, know of some Mariner, what Moone maketh a ful sea there: a south west or South Moone. &c. Then the age of the Moone found vnder the place or point of the Compasse sheweth in right order the houre and Minute of the full Water. The Ebbe then is manifest.

Of Ebbing
& Flowing.

Ensample.

I desire to know the Ful watr at London bridge, the yere of our Lord 1555, the 6. day of Februarye, I finde by Rules before put forth, the vi. day of Februarye, the yere also sayde, the Moone to be 14. dayes old. I see also vnder the title wher London is S. W. which letters signify that a South west Moone maketh a full Sea, there, and that is at two of the clocke, and xii. minutes past. This is wel perceived in the first Table before put forth, if you runne downe to the 14. day of the age of the Moone vnder London title.

A Note of the Houre of the day and night.

The ingenious may gather nere about the houre of the day and night by the Moone: consideration had of the poyntes in those Tables of tides before noted, For the houre is orderly put vnder the poyntes of the compasse,

Euery part or point containning 11. degrees and 1/2: this compasse is wel figured nere about the Centre in the instrumente following for the night howze, because ye may by it haue a delectable la rge ble of these Tables.

How by the first of the tyde Tables, ye may readily know when the Moone commeth vnto the South, when she riseth and setteth: with her continuance on the Earth.

Seeke the age of the Moone (as is opened) then resort to the first Tide table looking out the age there: So vnder the South point in right order the houre appeareth, when she commeth vnto the South. Then hath she spent half the arke, the Sunne would haue had in that signe, which pulled away sheweth the rising that halfe arke also added to her comming in to the South declareth her going downe. The arke then the Sunne would haue had in the signe, is her continuance on the Earth.

A Ta-

[illegible]

Consider the Moneth and day, that ye require any of the toforesayd: and
seke in this Table that same under the title: procede in ryght ordre,
so ye haue your purpose. If the uery day be not founde, take the nearest of
your table. ¶ Or by proportion the truthe is geuen: whiche all by
Ensample folowyng shall playnly be declared.

Ensample.

The first day of January. I despye all the aforesayd: \bar{y} is, the breake of the day: the very minute of the Sunne rysinge, the length of the day, & also of the night, the Sunne going downe and the twilight. I finde on the right hand of January, these numbers running downe. 1. 10. 20. which declare the first day, the. 10. day, and twenty of \bar{y} Moneth, Now to my purpose, I requyre the breake of the day, &c. The first of January, in \bar{y} table vnder \bar{y} title, on the right hand of this figure. 1. I see. 5. houres and. 54. minutes \bar{y} is. 6 of the clocke wanting. 6. minutes: the rising of the sunne in \bar{y} order, is iust at 8. as this figures 8. there declarerth vnder that title in the rowe. The length of the day. 8 houres, the length of the night. 16. houres, the Sun setting is at. 4. the twilight, at. 6. & 6. minutes. Euen thus for the tenth day, and also for the twenty of that Moneth, in the rowes according to their titles in the head of my tables.

How to worke by proportion, when the day is not founde,

I would know al th' aforesaid, \bar{y} first day of January. I take for ensample the breake of the day Remember the first day of January, I did finde the breake, to be at. 5. of \bar{y} clocke, and. 54. minutes: and the tenth day I may finde the break of \bar{y} day to be at. 5. & 44. minutes, \bar{y} is. 10. minutes lesse. I see now 10 daies do geue me 10 minutes lesse. I say therefore by proportion \bar{y} fifth day must giue 5 minutes lesse the 5 houres 54. minutes which is 5 houres 49 minutes my request. Thus for al \bar{y} other titles.

The houre of the night, by the Moone, is etherwise founde then before; and that

dinerly,

The houre of her rising known as is opened & a marke the made wher she shadoweth in any true fixed or mouable sun Dial, \bar{y} houres and minutes from that marke al the Night after, are to be added to her rising If moze the, 12. surmount on. \bar{y} \bar{y} above. 12. sheweth the true houre and minute. If at the rising she may not be sene, the by the Sunne rysing, in \bar{y} very Signe (with \bar{y} help of this Almanack) you may perceiue what houre she would note at her rising. Therfore frō \bar{y} mark cost:

Howe by the Moone the night houre is founde.

Gi.

Profitable Rules.

An other waye.

When the Moone is at the ful, loke what houre her shadow sheweth in any Dial, that is the houre of $\frac{1}{2}$ night. After she be past the ful, 28. houres, ye must adde one houre. But afore the ful, pul one from $\frac{1}{2}$ ye find in the dial. If twice 28, two houres &c. So haue ye the houre of the night.

Howe the houre of the day by Right shadow, that is by any thing directly standing vp is knowen and by Squire shadowe also.

First it behoueth you to haue a staffe, or any other thing deuised in 12. equal parts. When ye list to haue the houre set vp directly your deuised staffe, on a plain leuel ground or bouarde &c. Note the iust length of that shadow, what parts it containeth. With those entre your Doneth in the Peculiar Kalender folowing, beholding diligently vnder the name of $\frac{1}{2}$ moneth the smal enclosed tables: considering wel, which of those smal tables are nerest vnto your day: & that iudge by $\frac{1}{2}$ signe or day ther noted. That table serueth your purpose: where you must looke out the parts of the shadow afore found, or neare vnto it vnder or ouer the which the hour is set, before or after noone. Note $\frac{1}{2}$ two pycks ther signify half a part more the is noted: one pycke, half a part lesse. Here it is also to be noted, $\frac{1}{2}$ euery table hath within two rowes of figures, the vpper is for the staffe, the other for the Squire shadow. And whatsoeuer is before sayd of the one that same is ment here of the other, sauing of the composition. The Squire must be deuised from the inward angle to the end of one side, in 12. equal parts, even so fro that angle thother side into 24. like parts as this figure sheweth,

These to the witty suffice.

The Composition of an Instrument for the hour of the night which is also a perfecte Dial for the day and excellent for the Mariner.

The taking of an altitude supposed I could exactly in few (and that without an Instrumēt) satisfy. For want of that knowledge make vpon a plain board or rather fine plate a circle the bigger the better, part it into 360. portions.

The

The Circle made diuide it in 6. not mouing the cōpasse: then euery of the in. 6. and ech of thole last in. 10: so haue you. 390. parts. Then character, it beginning at the North thus 10, 20. 30. &c as in the figure going toward the East, & ending at the North with 260. Now lay a Ruler on the centre, even with some diuisions, drawing chozow to the extreemes of the circle a line. Then crosse it with an other. These two must deuyde your circle in. 4 equal parts: which lines sheweth very East West: North and South, when by a Perislaue or square Dial, with a needel rectified, they are placed.

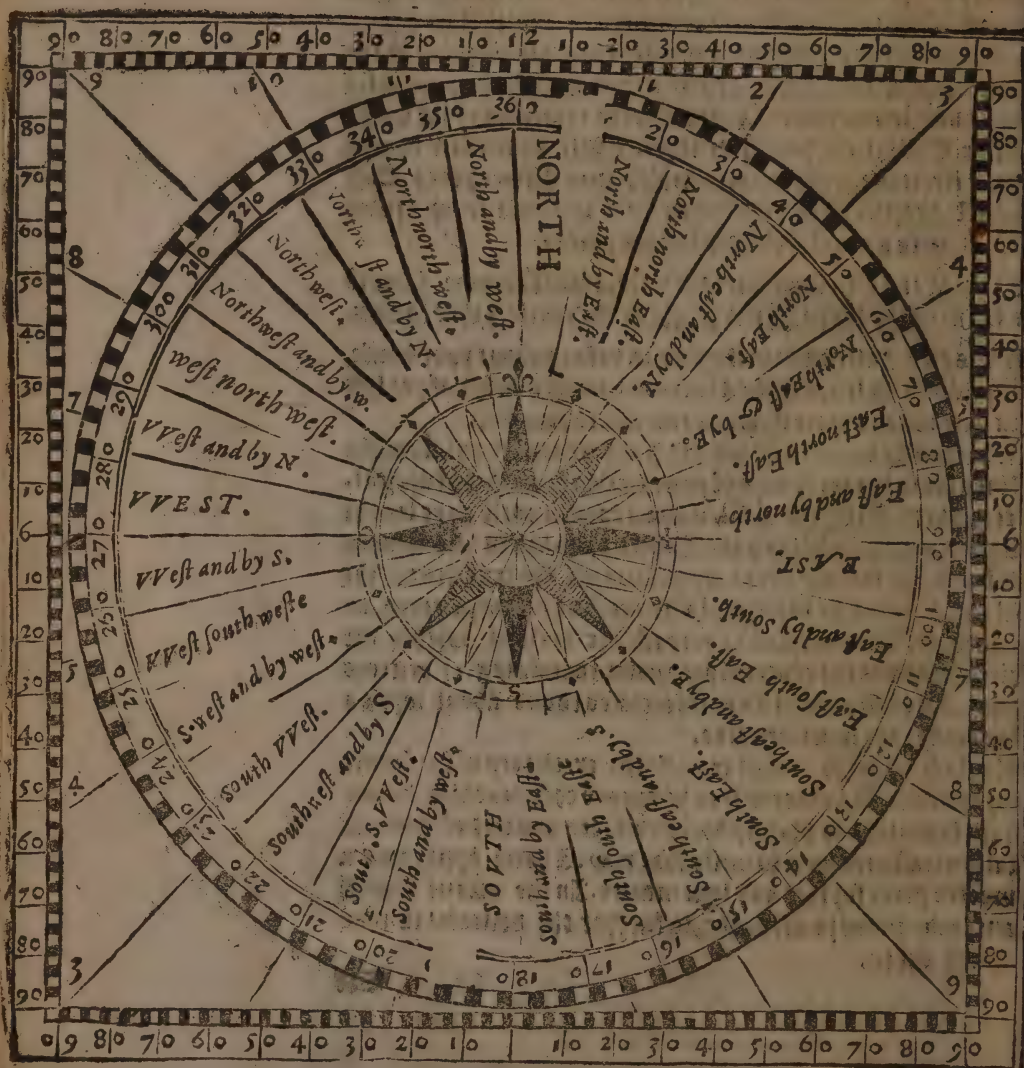
Now to end set a smal straight wire, a foote or more long to a Plane in the toppe, plumbright in the centre, & ther fasten it.

Thus this Instrumēt is finished, to be fixed about your house, Equidistant or leuyl to the Horizon hauing a needel if yee lyst in it, trewly to place it, when and where you will.

That it may be also a Diall for the day, you must pul straight lines from the extremity of your circle outward, to euery fifteth part decking the wth Characters conueniently as ye see the figure, your rule keeping the Centre thus when the Sunne shineth, the shadow of the wyre, sheweth the true houre: the Plane, the winds, &c being truly placed, wel placed, & rered, as foloweth. The pointes of the compasse are drawn wthin the circle, & about the centre. Euery point containing. 11 degrees and 1/2. The instrument as ye see inclosed round about wth a square: for the mariners aide.

Truly few words cannot expresse the excellency of the square for their vse. No other wise to be opened then learned Gemma barch inuented and plainly declared: Here omitted of mee not fully occasioned now to write that way. I haue appoynted a meete place for this and lyke matter. In the meane time I am ready in word and dede, so further the desireful in this or any other.

Profitable Rules.



Beholde this Instrument for navigation most commodious,
the use of which is here onely put forth accordyng
to my Invention.

*The right rering and placing of the
Dial tofore mencioned*



Ift by handfomely your Instrument oz Dial to- ward the North in fome mete place, the fide of a fquyre lpyng on it, vntill the plummet & line, cē- tered in the extreme upper part of the other fide of your fquyre like longe, cut al $\frac{1}{2}$ fquyre fide, which lyeth on your Instrument, the fifth parte onely except: Then moue your Instrument, hither & thither, this oz that waye, vntill the shadowe at the wyze fall vpon the houre off the day, keeping diligently your height befoze: your dial thus fixed de- clareth al the yere long, the exact houre & parts thereof. No Dial in truth excelleth this. Haue in remēbrānce, that thys instrument muſt lye leuell, nothing at all rered, for the houre of the night by ſtarre.

In vvinter the contrary ſu-
perficiēs or
plain theyveth
the day houre
frō Σ to γ .

To get the exact houre by two Starres of the firſt light, with an Instrument or Circle, to fore deuised, arſt of me inuented, calculated and practiſed.

The instrument, equidistantly ſet & placed, as is declared in the compoſition, ye ought to lay the edge of a ruler vnto $\frac{1}{2}$ wyze, the other neither end touching the Instrument, mo- uing here and there, ſtil touching the wyze, vntill either Star doeth offer it ſelfe with that edge, and $\frac{1}{2}$ by the Iudgement of the eye. Then put downe diſcretly your ruler (ſeuer touching $\frac{1}{2}$ wyze) the binder end not moued, obſeruing how many parts are cut from the North, to the edge of the ruler, Enter wth them the Peculiar Kalender following: ſeeking your poure Moneth, placed in the middes of euery Table: then the day of that moneth muſt be there found.

Fit filo aut dis-
gito, abſque
regula, exactiſſa
ſine.

Note that euery table hath on the ſides, the daies thus orde- red, 1. 5. 10. 15. 20. 25. 30. Know $\frac{1}{2}$ order oz row of figures which is right againſt, oz neereſt your day ſerueth the turn. The nū- bze oz parts befoze cut by the Ruler, and now found in $\frac{1}{2}$ row of your table, ſheweth the pꛛeciſe houre. If it be to little, $\frac{1}{2}$ houre ouer the head oz vnder is not yet come: if contrary, it is paſt.

Profitable Rules

¶ How these two bright starres being of the first light
are founde the one called *Aldebaran* or *oculus*
Tauri, the other *Alramech*

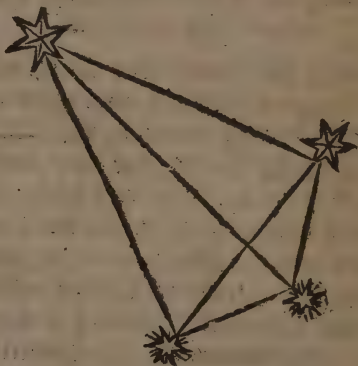
By what mea=
nes these Star=
res are
knowen.

The best way is thus. The Day and day knowen with y
true howe of the night, entre your Table considering that
Day and day obserue what partes belongeth there to that
starre & howe. Then resort to your Instrument, laying the
edge of your ruler, as many partes fro the North, Eastward
circumspectly lifting by the edge close by the wyse so the sayde
shineth euen with that edge.

Or thus Grofely

Another vway
to finde them.

Oculus Tauri is euer a meate rodder and a halfe to the eye
vnder the 7. Starres & somewhat North of them in the ri
sing *Alramech* is contrary to him placed accompanied with 3
little dimme Starres a rod from him by the iudgement of the
sight in the forme of a Triangle thus.



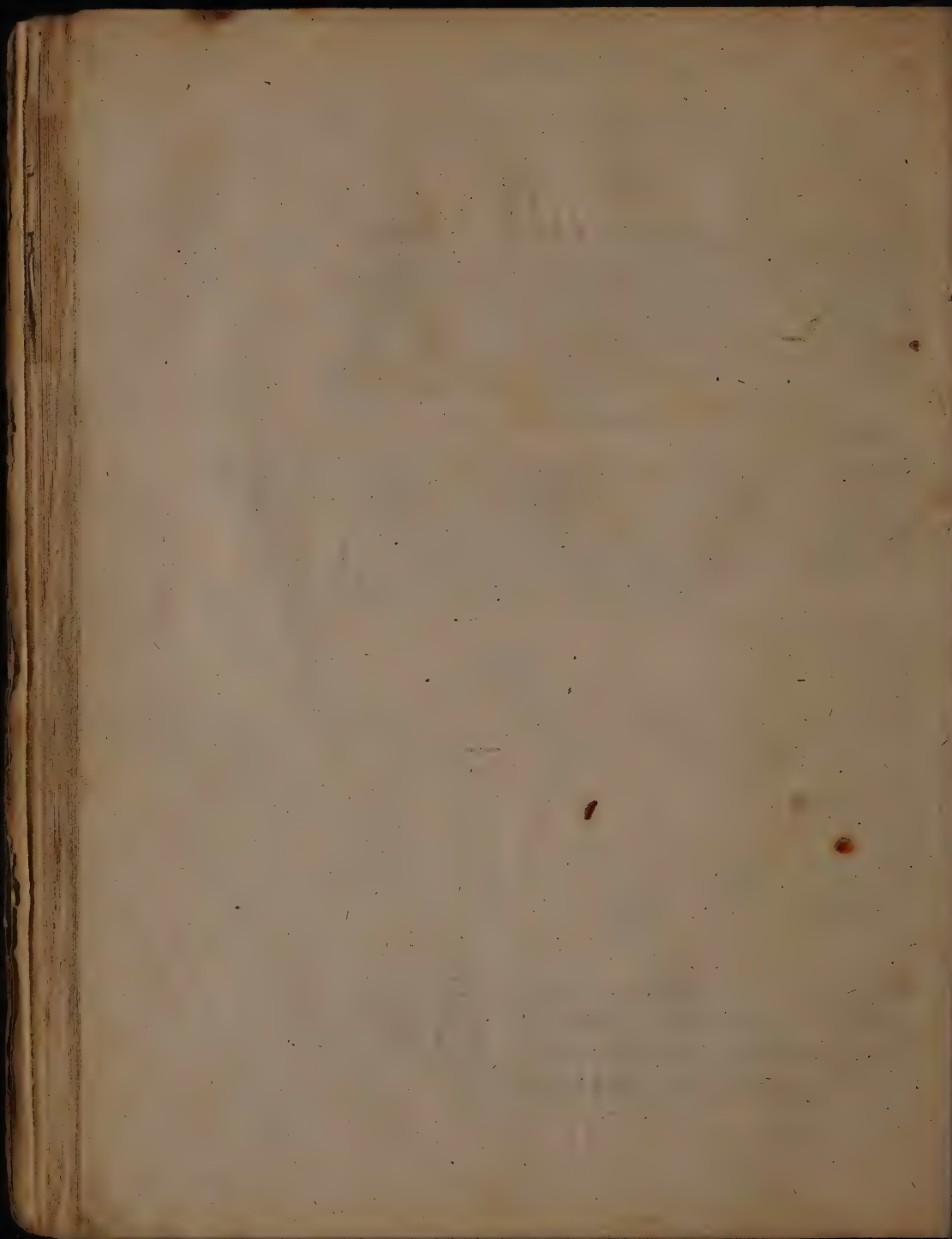
¶ Behold this Figure, the great Starre doth represente
Alramech, the other thre the Triangle which is placed
alwayes with him, but commonly there doth appea
re but one Starre of the Triangle.

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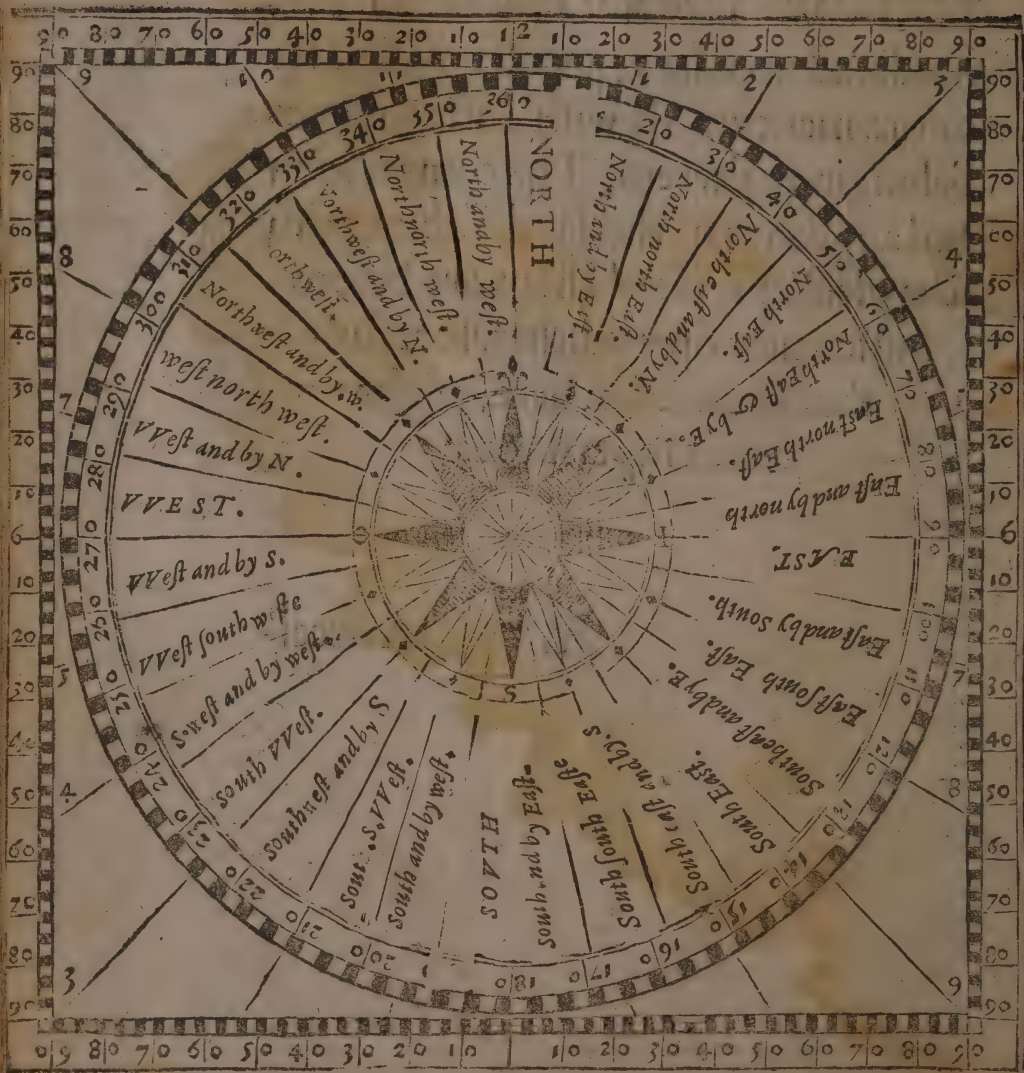


To
ne
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th

NOVV ENSVETH THE
needefull necessary, peculiar Kalender
tofore mencioned: with Instrumentes
belonginge thereto. The composition
and appliance of the sayd Tables, with
the pleasaunt vse of them, are before
sufficiently opened: therefore fur-
ther declaration here, might
seeme superfluous;

H. A neces-

28 A Necessary Instrument, to finde exactly, the boure
of the day, and night diuers vvayes, wyth
with helpe of this Peculiar Kalender.



	5	6	7	8	9	10	11	12
1	128	133	143	165	190	213	59	79
5	112	129	150	172	197	220	63	74
10	118	135	158	181	205	227	68	78
15	123	144	166	192	214	233	71	81
20	130	151	173	199	225	239	75	85
25	137	158	181	207	223	244	79	90
30	144	165	191	213	233	249	82	93
January hath xxxj. dayes.								
81	93	135	121	143	168	195		
86	9	110	127	153	177	205		
89	11	16	135	160	139	214		
93	105	122	141	169	198	223		
93	111	123	152	179	207	230		
101	116	135	159	190	216	236		
190	121	144	198	158	222	242		
	1	2	3	4	5	6	7	

From evening to midnight.

Oculus
Tauri.

Almarech.

1
5
10
15
20
25
30

For the night.

From midnight unto day.

	12	11	10	9	8	7	H
10 { Staffe	36	39	49	183	1550	01	{ fbad. }
10 { Squire	4	4	13	12	0	0	{ fbad. }
H	0	1	2	3	4	5	
20 { Staffe	12	11	10	9	8	7	H.
20 { Squire	32	34	42	65	209	0	{ fbad. }
H	0	1	2	3	4	5	6
30 { Staffe	12	11	10	9	8	7	H.
30 { Squire	27	29	35	55	209	10	{ fbad. }
H	0	1	2	3	4	5	

For the day.

grè xx

20

	9	10	11	12	
1	92	104	113	133	164
5	94	107	123	145	171
10	98	111	129	153	185
15	101	117	135	160	189
20	106	122	144	168	198
25	111	128	152	178	207
30	117	135	159	189	215
Aprill hath xxx. dayes.					
1	193	28	239	255	
5	199	225	244	58	
10	207	25	248	62	
15	215	136	25	266	
20	223	243	257	270	
25	23	248	262	274	
30	23	22	266	278	
	1	2	3	4	5

From evening to midnight.

For the night.

From midnight to the day.

Airamech.

	H	12	11	10	9	8	7	
8	Staffe	10	11	13	16	23	36	76
	Squire	14	13	11	9	6	4	2
	H	0	1	2	3	4	5	6
	H	12	11	10	9	8	7	6
18	Staffe	9	9	11	3	58	267	
	Squire	16	15	12	9	7	4	2
	H	0	1	2	3	4	5	6
	H	12	11	10	9	8	7	6
28	Staffe	8	8	12	14	17	23	42
	Squire	18	17	14	10	7	5	3
	H	0	1	2	3	4	5	6

For the day.

{bad.} 0

{bad.} 10 gr. 8

{bad.} 20

	8	9	10	11	12			
1	117	136	160	190	216			
5	120	142	168	196	222			
10	128	152	178	200	230			
15	134	159	188	214	235			
20	143	168	199	222	241			
25	151	177	206	230	248			
30	160	189	215	236	253			

Alrameck

May hath xxxj. dayes.

From midn^ght unto day.

27	25	26	278
241	256	269	280
247	261	273	285
252	266	278	288
257	270	281	292
262	274	285	296
266	278	288	300

[illegible]

I {

12	11	10	9	8	7	6	5	H
7	8	10	13	17	26	43	100	} (bad.) gr. II.
20	18	15	12	8	5	3	1	

 }

 Squire

 H 0 1 2 3 4 5 6 7

{ 12 11 10 9 8 7 6 5 4 { H
 { Staffe 7: 7: 9: 12: 17: 24: 39 82: 258 { (bad.)
 { Squire 21: 19: 15: 12: 8: 6: 4: 2: { (bad.) 10
 H 0 1 2 3 4 5 6 7 8

{
 Staffe { 12 11 10 9 8 7 6 5 H
 6: 7 9 12 16 23 37 74 565 {bad. 20 gr. 1 II
 Squin { 22 20 16 12 9 6 4 2 {bad.
 H 0 1 2 3 4 5 6 7

Alramech.

For the nyght.

From midnigh into day.

	8	9	10	11	12			
1	161	191	217	238	253			
5	169	200	225	243	258			
10	180	209	231	248	262			
15	109	216	237	253	266			
20	193	225	243	258	270			
25	209	232	249	262	274			
30	217	238	283	267	278			
June hath xxx. dayes.								
	267	278	290	300				
	270	280	291	303				
	274	285	296	307				
	278	288	300					
	281	292	303					
	283	296	308					
	289	300	312					
	1	2	3	4	5			

From evening to midnigh.

1
5
10
15
20
25
30

For the day.

	12	11	10	9	8	7	6	5	4	H
Staffe	6:	7:	9:	12:	16:	23:	35:	74:	156:	bad.
Squire	22:	25:	16:	12:	9:	6:	4:	2:		bad.
H	0	1	2	3	4	5	6	7	8	
	12	11	10	9	8	7	6	5	4	H
Staffe	6:	7:	9:	12:	16:	23:	36:	72:	453:	bad.
Squire	22:	20:	16:	12:	9:	6:	4:	2:	0	bad.
H	0	1	2	3	4	5	6	7	8	
	12	11	10	9	8	7	6	5	H	
Staffe	6:	7:	9:	12:	16:	23:	37:	74:	585:	bad.
Squire	22:	20:	16:	12:	9:	6:	4:	2:		bad.
H	0	1	2	3	4	5	6	7	8	

gr. II.

10

20 gr. : 69

	8	9	10	11	12		
1	219	239	255	268	280		
5	225	244	259	272	283		
10	233	250	264	275	286		
15	238	254	279	279	290		
20	243	258	271	283	293		
25	249	262	275	286	297		
30	254	267	279	290	300		

Iuly hath xxxij. dayes.

	1	2	3	4	5		
290	302	83					
293	304	86					
297	79	90					
301	82	93					
304	86	98					
308	89	101					
382	93	106					

From evening to midnight.

Alramech.

Alramech

Oculus

Tauri.

30

For the night.

From midnight unto day.

	12	11	10	9	8	7	6	5	4	H
Staffe	7	7	19	12	16	24	39	82	2580	
Squire	21	19	15	12	8	6	4	2		
H	0	1	2	3	4	5	6	7	8	

	12	11	10	9	8	7	6	5	H
Staffe	7	8	10	13	17	26	43	100	
Squire	20	18	15	11	8	5	3	1	
H	0	1	2	3	4	5	6	7	

	12	11	10	9	8	7	6	5	H
Staffe	8	8	10	14	19	28	49	139	
Squire	18	17	14	10	7	5	3	1	
H	0	1	2	3	4	5	6	7	

gr. 1 Ω

3.

Alramech.

Oculus
Tauri.

Oculus
Tauri.

For the night.

From midnight into day.

From evening to midnight.

	8	9	10	11	12		
1	251	267	279	291	302		
5	259	272	284	294	304		
10	263	275	286	297	79		
15	267	279	290	300	81		
20	270	282	292	303	86		
25	274	285	296	308	88		
30	278	288	299	81	92		

August hath xxxj. dayes.

82	94	107	122	141			
86	98	111	126	146			
89	102	116	132	154			
93	105	119	138	160			
96	110	125	144	167			
100	114	130	152	174			
104	118	136	158	183			

1 2 3 4 5

	H	12	11	10	9	8	7	6	5	
3	Staffe	9	9	11	15	21	31	58	207	{shad.} 0 gr. R
	Squire	16	15	12	9	7	4	2	0	
	H	0	1	2	3	4	5	6	7	

	H	12	11	10	9	8	7	6	
14	Staffe	10	11	13	16	23	36	76	{shad.} 10
	Squire	14	13	11	9	7	4	2	
	H	0	1	2	3	4	5	6	

	H	12	11	10	9	8	7	6	
24	Staffe	11	12	14	18	20	43	111	{shad.} 20 gr. R
	Squire	12	12	10	8	5	3	1	
	H	0	1	2	3	4	5	6	

For the day.

	7	8	9	10	11	12		
1	267	279	290	301	82	93		
5	270	281	292	303	85	96		
10	273	285	296	307	88	100		
15	276	287	298	80	91	104		
20	280	291	302	83	94	108		
25	284	295	305	87	99	112		
30	287	287	80	91	103	117		

September hath xxx. dayes.

	106	120	139	161	186		
1	106	120	139	161	186		
5	109	124	144	166	192		
10	113	129	150	173	199		
15	117	135	155	180	204		
20	123	142	164	189	212		
25	128	149	171	196	219		
30	134	155	180	204	225		

From evening to midnight.

Alramech

Oculus
Tauri,

1
5
10
15
20
25
30

Oculus
Tauri.

	12	11	10	9	8	7	6	
Staffe	13	14	16	21	30	54	221	
Squire	11	10	9	7	5	13	1	

H
{bad.} 20 gr. 17.
{bad.}

H 0 1 2 3 4 5 6

	12	11	10	9	8	7	
Staffe	15	16	19	24	37	73	
Squire	9	9	8	6	4	2	

H
{bad.} 0
{bad.}

H 0 1 2 3 4 5

	12	11	10	9	8	7	
Staffe	17	18	22	29	45	112	
Squire	8	8	6	5	3	1	

H
{bad.} 10
{bad.}

H 0 1 2 3 4 5

34

gr. 12

10

Oculus
Tauri.

*Oculus
Tauri.*

For the night.

From midnight unto day

	6	7	8	9	10	11	12
1	277	288	298	30	92	104	117
5	279	290	302	82	94	107	122
10	284	294	305	86	98	111	127
15	286	68	79	90	102	116	133
20	290	71	82	93	106	121	140
25	294	75	86	98	111	126	146
30	297	79	90	102	116	131	154
October hath xxxj. dayes.							
From midnight unto day	135	157	181	205	226	243	
	141	162	188	210	231	247	
	147	170	195	218	237	252	
	154	178	202	225	242	256	
	162	186	210	230	246	260	
	169	194	217	235	251	264	
	177	202	224	241	255	268	
	1	2	3	4	5	6	

From Evening to midnight

1
5
10
15
20
25
30

For the day.

4 {
Staffe
Squire
H
12 II 10 9 8 7
20 21 25 34 61 226 | | |
| 6 4 2: 0: | | |
0 1 2 3 4 5
H
12 II 10 9 8 7
23 25 30 42 79 6896 | |
6 6 5 3 2 0 | | |
0 1 2 3 4 5
H
12 II 10 9 8
27: 29 35 52 211 | |
5 5 4 3 1 | | |
H 0 1 2 3 4
shad. } 20 gr. 12
shad. }
shad. } 10
shad. }

	5	6	7	8	9	10	11	12
1	287	298	80	92	104	117	135	156
5	290	302	82	94	107	122	140	163
10	294	305	87	98	111	127	147	171
15	293	85	91	103	117	135	156	180
20	301	83	95	108	123	142	165	189
25	307	88	100	113	129	150	173	198
30	81	92	104	119	136	158	183	206
Nouember hath xxx. dayes.								
1	182	215	225	243	257	270	281	291
5	188	211	231	248	261	273	285	296
10	195	218	237	252	265	277	288	000
15	204	225	243	257	269	281	292	000
20	213	232	248	261	274	285	297	000
25	220	238	253	266	278	290	127	000
30	227	244	258	270	282	293	135	000
	1	2	3	4	5	6	7	8

From evening to midnight.

Almarech.

Oculus
Tauri.

Oculus
Tauri.

For the night.

From midnight unto day.

12 11 10 9 8 7

Staffe	32	34	42	12	65	209		
Squire	4	4	13	12	0	7		

H 0 1 2 3 4

20 gr. m

12 11 10 9 8

Staffe	36	39	49	83	550			
Squier	4	4	34	2	1	0		

H 0 1 2 3 4

gr. 27

12 11 10 9

Staffe	40	45	57	104				
Squier	3	3	2	1				

H 0 1 2 3

10

For the day.

Almarech.

Oculus
Tauri.

Oculus
Tauri.

For the night.

From midnight unto day.

	5	6	7	8	9	10	11	12
3	81	92	105	119	136	158	183	207
5	84	96	109	124	144	166	192	214
10	89	101	115	132	153	175	201	222
15	93	105	120	139	161	186	209	230
20	98	111	127	147	169	195	217	235
25	103	116	133	154	177	202	224	242
30	107	122	141	163	188	211	231	248
December hath xxxj. dayes.								
	228	244	258	271	283	293	305	
	234	249	263	275	286	297	309	
	240	255	267	279	291	302	313	
	246	260	272	284	295	306	317	
	251	264	276	287	298	309	319	
	256	268	280	291	302	312	322	
	261	273	285	296	307	317	327	
	1	2	3	4	5	6	7	

From evening to midnight.

1
5
10
15
20
25
30

For the day.

	12	11	10	9					H
2	Staffe	43	47	52	57	62	67	72	Shad.
	Squire	3	3	12	11	1	1	1	Shad.
12	Staffe	45	49	55	61	67	73	79	Shad.
	Squire	3	3	2	1	1	1	1	Shad.
22	Staffe	43	47	52	57	62	67	72	Shad.
	Squire	3	3	12	11	1	1	1	Shad.
31	Staffe	40	45	51	57	63	69	75	Shad.
	Squire	3	3	2	1	1	1	1	Shad.
	H	0	1	2	3				

20 gr. x.

0 gr. L.

10

12
11
10
9
8
7
6
5
4
3
2
1

12
11
10
9
8
7
6
5
4
3
2
1

North



West

East

South

¶ Thus endeth the Peculier Kalender, very commodious for the day and night houre, I haue here adioyned the Instrument without the Square, which may suffice, for the whole vse of the toforesaid Kalender, with the help of the Squire and Staffe.



A general Prognostication Fol. 35

I May not here omit a Kalender generall deuised in ii. part
wherof the fyrst contayneth six Monethes, from Ianuarie
to Iune. The second other six Monethes from Iulie to De-
cember. In this Kalender are set forth the Festiual dayes, the
entryng of the Sunne in the Signes Celestial, the euil daies
noted with one Picke. For a further declaration of those euil
dayes, reade this following.

*The yeare hath xxxiii. euil dayes gene-
rall for ener*



I Anuary hath eight such dayes, the i. the ii. the iii.
the v. the x. the xv. the xvi. the xix. Drynke white
wyne this Moneth.

February hath thre dayes, the viii. the x. the
xvii. these not so euil. the xvi. the xviii. the xxiii.

Eate no pottage of Dikes or Hallowes: They are venemous.

March thre dayes, the xv. the xvi. the xix, these not so euil, the
xxiii. day. This moneth, all sweete meates are good.

April two dayes, the xvi. the xxi. these not so euil, the vii. the
viii. the x. the xx. Use hote meates of light digestion.

Maye thre dayes, the vii. the xv. the xx. these not so euil, the
iii. the vi. Rise Early, and vse breakfast.

Iune two. the iiii. the vii. these not so euill, the x. the xi. the
xxii. Sage and leccuse are good to eate, Colde water fastinge
hurteth not.

Iuly two dayes, the xv. the xx. abstayne from carnallsey.

Agust two dayes, the xix. the xx. These not so euil the firste
the xix. the xx. It hurteth not to abstayne from pottage, and
all hote meates and drynkes of spicerie.

September two dayes, the vi. the vii. these not so euil, the iiii.
the iiii. the xxi. eate good fruite.

October one day, the vi. these not so euil, the iiii. the xvi. the
xxiii. Good wyne is holesome this Moneth.

November two dayes, the xv. the xix. these not so euil, the v. the
vi. the xxviii. the xxix. Bleede not.

December thre dayes, the vi. the vii. the ix. these dayes not so
euil, the xv. the xvi. Bleede not ouermuch. Warm not
thy legges at the fyre,

The first part of the generall Kalendar from Ianuarie to Iune.

Ianuarie.	Februarie.	March.	Dates	April.	May.	Iune.
:A Circūc.	d	d	1	g	hPhi. fac.	e
:b	e Purif.	e	2	A	c	f
c	f	f	3	b	d	g
:d	g	g	4	c	e	:A
:e	A	A	5	d	f	b
f Epiph.	b	b	6	e	g	c
g	c	c	7	f	:A	:d
A	:d	d	8	g	b	e
b	e \odot in X	e	9	A	c	f
:c	:f	f	10	b	d	g
d \odot in \approx	g	g \odot in V	11	c \odot in δ	e	A Barna.
e	A	A Spring.	12	d	f \odot in II	b \odot in ϕ
f Hilar.	b	b	13	e	g	c Summer.
g	c Valen.	c	14	f	A	d
:A	d	:d	15	g	:b	:e
b	e	:e	16	:A	c	f
:c	:f	f	17	b	d	g
d	g	g	18	c	e	A
e	A	:A	19	d	f	b
f	b	b	20	:e	:g	c
g	c	c	21	:f	A	d
A	d	d	22	g	b	:e
b	e	e	23	A Georg.	c	f
c	f. Matb.	f	24	b	d	g Ioabap.
d Cō. Pau.	g	g Ann.	25	c Marc.	e	A
e	A	A	26	d	f	b
f	b	b	27	e	g	c
g	c	c	28	f	A	d
:A		d	29	g	b	e Pē. Pa.
b		e	30	A	c	f
c		f	31		d	

The seconde part of the generall Kalendar: from Iulie to December.

Iuly.	August.	Septemb.	Days	October.	Novem.	Decem.
g	c Pet. Vin.	f	1	A	d Om. fa.	f
A	d	g	2	b	e Om. an.	g
b	e	.A	3	.c	f	A
c	f	.b	4	d	g	b
d	g	c	5	e	.A	c
e Dog beg.	A	.d	6	f	.b	.d Nicol.
f	b	ie	7	g	c	.e
g	c	f Na Ma.	8	A	d	f Cō. ma.
A	d	g	9	b	e	g
b	e	A	10	c	f	A
c	f	b	11	d	g	b
d	g	c	12	e	A	c \odot m \odot
e	A	d	13	f	b \odot m \times	dwynter.
f \odot m \odot	b \odot m π	e \odot m $\underline{\odot}$	14	g \odot m π	c	e
g	c	f Heruest.	15	A	d	f
A	d	g	16	b	e	g
b	e Dog end	A	17	c	f	A
c	f	b	18	d Luc.	g	b
d	g	c	19	e	.A	c
e	.A	d	20	f	b	d
f	b	.e Mathe.	21	g	c	e Thc. ap.
g Ma. mag.	c	f	22	A	d	f
A	d	g	23	b	e	g
b	e Barbo.	A	24	.c	f	A
c Luc. Apo.	f	b	25	d	g	b Na. do.
d	g	c	26	e	A	c Steph.
e	A	d	27	f	b	d Io. enā.
f	b	e	28	g St. Iud.	.c	e Innoce.
g	.c decol. Io.	f Micha.	29	A	.d	f Tho.
A	d	g	30	b	e Andre.	g
b	e		31	c		A

The Generall Kalender

Lo the Brieve vse of this General Kalender.

Entre the columpne wher your Moneth is noted in the head, yee shall there fynde runninge downe the columpne the Festival dayes of that moneth, the entry of the Sunne in the Celestiall signes, the euil dayes pricked, &c.

I would haue placed in this Kalender the Fayres and Termes also, but that cannot remayne continual true: For those that ensue moueable Feastes are moueable, and therfore may haue no certayne place, For the Termes, note these preceptes following. The Fayres shalbe declared by two Tables immediately ensuing this Kalender general.

How to know the Termes.

Now therfore, that Easter Terme alwayes beginneth the 18. day after Easter, reckning Easter day for one, and endeth the Monday next after the Assencion day

Trinity Terme beginneth the Fryday next after Corpus Christi day, and endeth the Wednesday fortnight after.

Michaelmas Terme beginneth the 9. or 10. day of October, and endeth the 28. or 29. of November.

Hillary Terme beginneth the 23. or 24. day of January: and endeth the 12. or 13. day of February.

FINIS.

Generall Faïres Fol 37

¶ A Table containyng the Moneth, day, and
Place of the principal Fayres of England
to be augmented at pleasure in order,
following.

The 6 at Bristow, at Salisbury. The first of Lente at January.
Exeter.

The 2, day at Bath at Wapstone. The 14 at Feuer-
same. On Wednesday, at Lichfeilde, at Ropston at Cam-
worth. The first monday in Lent, at Cister, at Abington. The
24 at Henley bypon Thames, at Tenkesbury.

The 4. Sunday in Lent at Stanfords, at Sudbery. The 5 Marche
Sunday at Granam, at Salisbury, the Monday before our La-
dy day at Walsbych Palme even. The 13. at Wipe. The 25. at
Rothampton, at Great Chare, at Waulden.

The 5 day at Walingford. The 7. at Darby The 9. at Vic-
kelsworth, at Billingworth at Casam the Monday after. The
3 Sunday after Easter at Louth. The 23 at Charinge, at Ip-
swiche at Amtil, at Winigam, at Gilsford. The 25. at Darby.
The 26. at Centerden.

The 1. dayes at Stowe the olde at Reading, at Wapstone
at Leicester, at Chensford. The 8 day at Beverley, Ascension
day, at Birmingham, at S. Edes, at Bishops Slatsford. Whit-
sonday, at Kingstone bypon Thames. Trinity Sunday at Ro-
well, at Cranebooke, the 16 daye. The 17. day at Lennam.

On Corpus Christi day, at Conentry S. Edes, at Bishop June.
Stanfords, at Rolfe the 9 at Wapstone. The 11 at Okingam.
The 23. at Shrovsbury, at S. Albons. The 24. at Cambridge,
at Gloucester, at Lincoln, at Windsor, Colchester. The 29.
at Wollerhampton, at Peterborough. The 17 at Foli. None. The
24 at Hertford. The 28 at Hetrozne.

A table

Generall Faïres

A Table containyng the Moneth, day, and Place, of the principal Fayres of England to be augmented at pleasure in order following.

July.

The 11. day bozlesappe at Partney, at Nabor, at Felby: the 12. day at Lpd, The 2. at Pinchbacke. The 17. at Winch. com. The 20. at Uxbridge, at Cattelby. The 22. at War. bozow, at Winchester, at Colechester, at Tetbery. The 25. at Bistow, at Dover, at Chilham, at Ipswich, at Northampton, at Darby, at S. James by London, at Reading, at Louth at Daellsbery.

August.

The 1 day at fenerlame, at Donstable at S. Eves at Bud-
fozch at Parra Church, at Wulbith. The 9. at Rumney. The
10. at Bedfz at Fernā, at Stodes, at Blakamoze. S. Lau.
at Walton. The 24. at London, at Tetwylbery, at Sudbery, at
Norwich, at Northalerton, at Dover, at Ric. The 28. at Ash
foz.

September

The 8. day at Cambridge, at Sturbzidge, at London in
Southwarke at Smide, at Recoluer, at Partnope iiii. Ladye
dapes. The 14. at, Maltam Abbeie, at Motton under bedge
at Smalodng. The 21 at Croydon, at Hulden in Holbernes, at
S. Edmondsbery, at Paulton, at S. Iues, at Halby Lanam
at Wilemal, at Sittingbozow, at Dover, at Ertie. The 29.
day at Canterbury.

October.

The 6. day at S. Siches besydes Norwiche, the 13. at Gra-
ues end, and at Wimpz at Marchfeld. The 18 at Elie, at Sta-
ton, at Charing. The 23. at Harfzode, at Cister, at Newmar-
ker.

November

The 2. day at Kingstone, at Blechingly. The 6. at Newpore
pond, at Standly. The 11 at Dover. The 13. at S. Edmonds-
bery. The 20 at Wyeb. The 23. at Sandwich. The 30. at Ro-
chester, at Paydenhead.

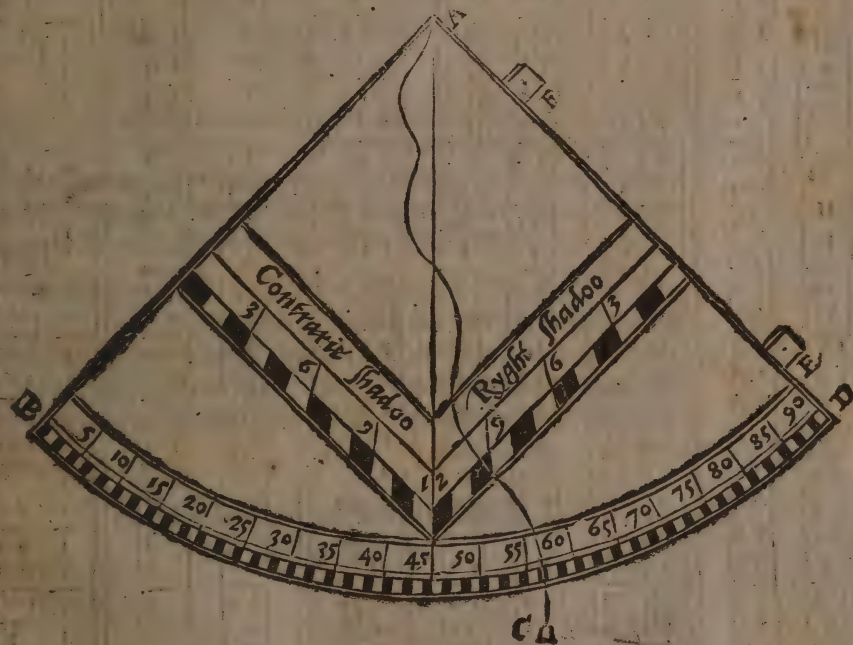
December

The 29. at Canterbury. The 5. at Pluckley. The 6. at Spal-
ding. The 7. at Sanderik.

Because I vnderstand many are desirous how to get exactly Fol. 38.
the iust length of Staffe & Squier shadow before treated of.

bypon vneleuell groundes, or other wayes, where soeuer it be,
yea without either Squier or Staffe I haue calculated a ta-
ble folowing, throwly satisfiing them, so y they get the heighe
of the Sunne any way, or as I shall now instruct.

Beholde this instrument called a Quadrant the iust fourth
parte of a circle euen such a circle as I taughte you before to
make for y night Diall containng the fourth part of his diui-
sions, y is 90 degrees onely ii sightes and a plume line added,
to be placed at the beginning of this booke, as ye maye there
& here see. I haue here also put the Scale to the Quadrant,
which serueth wel for shadows, and aswel for heighees. The
vse of this Scale is declared in my booke called Tectonicon.



Let by handsomely your Quadrant & Sūne beams persing y
sightes. The Plumet & Line then at liberty falling, notech
ther the degrees of heighe at that present, with the which yee
shal enter this table immediately folowing, to get then and in
like maner at al other times y iust shadow of y Staffe or Squier
How by this
Instrument to
get the heighe
of the Sunne
at any times.
A Table.

*A Table generall of Shadowes, right and contrary: for
 every grade of the Sunnes height: The thing cau-
 sing Shadowe, supposed .12 partes.*

Height of the Sunne.		Staffe. Shadow.	Height of the Sunne.		Staffe. Shadow.	Height of the Sunne.		Staffe. Shadowe.
G	g	P M	G	G	P M	G	g	P M
0	90	Sham.	30	60	20 4 7	60	30	6 5 6
	89	637 3 4	31	59	19 5 8	61	29	6 3 9
2	88	343 4 3	32	58	19 1 2	62	28	6 2 3
3	87	223 5 9	33	57	18 2 9	63	27	5 7
4	86	171 3 7	34	56	17 4 7	64	26	5 5 4
5	85	137 10	35	55	17 8	65	25	5 3 6
6	84	114 10	36	54	16 3 0	66	24	5 2 1
7	83	97 4 9	37	53	15 5 2	67	23	5 6
8	82	85 2 8	38	52	15 2 1	68	22	4 5 1
9	81	75 16	39	51	14 4 9	69	21	4 3 6
10	80	68 3	40	50	14 1 8	70	20	4 2 2
11	79	61 4 4	41	49	13 4 8	71	19	4 0
12	78	56 2 7	42	48	13 2 0	72	18	3 5 4
13	77	51 5 9	43	47	12 5 2	73	17	3 4 0
14	76	48 8	44	46	12 2 6	74	16	3 2 6
15	75	44 1 7	45	45	12 0	75	15	3 1 1
16	74	41 5 1	46	44	11 3 8	76	14	3 0
17	73	39 1 5	47	43	11 1 1	77	13	2 5 5
18	72	36 4	48	42	10 4 3	78	12	2 3 2
19	71	34 5 1	49	41	10 2 6	79	11	2 2 0
20	70	32 5 8	50	40	10 0 4	80	10	2 7
21	69	31 1 6	51	39	9 4 3	81	9	1 5 4
22	68	29 4 2	52	38	9 2 2	82	8	1 4 1
23	67	28 1 6	53	37	9 0 3	83	7	1 2 0
24	66	26 5 7	54	36	8 4 3	84	6	1 1 6
25	65	25 4 4	55	35	8 2 4	85	5	1 3
26	64	24 3 7	56	34	8 0 6	86	4	0 5 0
27	63	23 3 2	57	33	7 4 8	87	3	0 3 8
28	62	22 3 4	58	32	7 3 0	88	2	0 2 5
29	61	21 4 0	59	31	7 1 3	89	1	0 1 2
30	60	20 4 7	60	30	6 5 6	90	0	0 0
Height of the Sunne.		Squier. Shadow.	Height of the Sunne		Squier. Shadow.	Height of the Sun.		Squier. Shadow.

*The vse of this Table, and Staffe Shadowe,**Ensample.*

I Suppose the height of the Sunne taken by the Quadrant 34 degrees, now I require the exact length of Staffe & Squire Shadow. For right shadowe, first seek out the degrees in the left parte of the Table, and under this title the height of the Sunne: if they be not in that lese some downewards, resort to the next rowe and like title, vntill ye find the degrees: then in righte order towards the righte hande, in the nexte columnne under the title of Staffe Shadowe, are 17, partes, and 47. minutes, your desire.

For Squier Shadow, titled contrary Shadowe.

Seeke your degrees in the right part upward, at thys title, Height of the Sunne, in the bottome of this Table, the shal ye finde on the right hand of 34. degrees, in the next Columnne eight partes and 6, Minutes: that is the very length of Squier Shadow, when the Sunne is 34. degrees in height.

Occasioned I cannot here omitte another Table fastly fully supputated for the Sonnes Altitude, by the which wpeh quick speede the houre is knowen. This Table conducteth manfold wayes, yea to the Composition of diuers and many Instruments: as Quadrantes, Naucicles, Cylindres, Ringes.

cc.

*Beholde now' it doth ensue, and also
the brieve vse of it.*

L

A Table

**A Table of the Sunnes altitude, for every houre the Pole mounted, 51. degrees
30. Minutes, exactly calculated.**

Hour before n.	Hour after n.	12	11	10	9	8	7	6	5	4											
		I	I	2	3	4	5	6	7	8											
St.	G	S	C	G	M	G	M	G	M	G	M										
30	59	0		62	0	59	43	53	45	45	42	36	42	27	23	18	11	9	28	1	31
25		5		61	54																
20		10		61	37	59	21	53	26	45	24	36	25	27	6	17	54	9	9	1	13
15		15		61	9																
10		20		60	30	58	17	52	28	44	32	35	35	25	16	17	3	8	16	0	16
5		25		5	41																
0	58	0		53	42	56	34	50	55	43	6	34	13	24	56	15	41	6	50	0	0
25		5		57	34																
20		10		56	17	54	15	48	48	41	10	32	22	23	6	13	50	4	55	0	0
15		15		54	52																
10		20		53	21	51	26	46	12	38	46	30	6	20	52	11	34	2	34	0	
5		25		51	43																
0	57	0		50	0	48	11	43	11	35	58	27	2	18	1	8	59	0	0		
25		5		48	12																
20		10		46	20	44	37	39	51	32	53	24	32	15	27	6	8	0	0		
15		15		44	25																
10		20		42	23	40	51	35	18	29	34	21	24	12	25	3	6	0	0		
5		25		40	20																
0	56	0		37	3	36	58	32	37	26	7	18	8	9	16	0	0				
25		5		36	30																
20		10		34	32	31	4	28	55	22	38	14	51	6	7	0	0				
15		15		32	35																
10		20		30	40	29	15	25	18	19	14	11	33	3	2	0					
5		25		28	4																
0	55	0		27	0	25	40	21	51	15	59	8	34	6	0						
25		5		25	17																
20		10		23	39	22	22	18	42	13	1	5	45	0	0						
15		15		22	8																
10		20		20	43	19	29	15	55	10	23	3	17	0							
5		25		19	26									0							
0	54	0		18	18	17	6	13	38	3	13	1	15								
25		5		17	19																
20		10		15	30	14	48	11	55	6	35	0	0								
15		15		5	51																
10		20		15	25	14	13	10	52	5	36	0									
5		25		15	6																
0	53	0		15	1	13	51	10	20	5	1										

V be the Summe current in 22 grade of 99 be touch about Horizon
4. in the morning Entering the 22 of 76 be 75ch at 8 in the sytle
45 in the first of May at 7. Note in all my tables one price
following the Minutes di miniffeth: for augmentation
some finde quantitie.

V When the Sunne arriveth to the 22. grade of 56. he toucheth our Horizon
 4. in the morning Entering the 22. of 56. he riseth at 8. in the forenoon
 at 1. in the first of May at 7. Note in all my tables, some prick the
 following the Minutes, do missheth: two judgement sh
 some make quantity.

[The briefe vse of this Table.

Suppose the heighe of the Sunne taken by the Quadrante, eight degrees and 13. Minutes, the Sunne being in the beginning of Aquary, or Sagittarie. I seeke and find in this Table and in the Row which directly answereth \approx and \times 8. degrees and 13. Minutes: that is agreeable to 9. or 3. of the clocke in the head of this Table. Therefore I pronounce that when the Sunne was 8. degrees and 13. Minutes in height, entering \approx or \times it was precise 9. of the clocke in the morning, or 3. at after Noone. Thus at all times yee may knowe the iuste houre.

We may also conclude the heighe of the Sunne at all tymes, the place of the Sunne known, and the houre. Note whē the precise numbers either of height, or degree of the Sunne are not found in the Table, then make proportion according to the difference, &c. Practise better then many words openeth this. Now to ende this matter, this following to him that hath tasted these knowledges I write.

Dato loco Solis & eius Altitudine, horam ipsam calculare.

De sinum inuente solaris Altitudinis, in sinum arcus semidiurni, & productum diuide per sinū Altitudinis Meridianæ eiusdem Solis, & prouenientis inde partium numeri sumito arcum, quem tandem in horas vertas: Collectus horarum numerus quesitam indicabit horam: ab ortu quidem Solis, si altitudo fuerit ante meridianā, vel ab occasu, si eadē Solis Altitudo acciderit post Meridiem.

Nowe having some occasion I could here adopyne a bylese Supputation Sinicall, touching most workings Astronomicall, but howe farre that passeth the capacity of the common sorte of men, they that be trauapled know. For this cause I leaue to giue any preceptes this way: desiring prouocation meete to haue to doe in the like: then God suffering my penne

L 2, Hal

Briefe.

Shall not stay to open ready chosen generall wayes, for pleasant
Astronomicall operation.

Here shall now follow briefly collected certaine rules per-
formed befoze by Tables: but now don by quicke supputa-
cion, to be had in memozy, by that auoyding carpage of burde
of bookes.

*A way to get the Golden number for.
Prime without a Table.*

Adde vnto the yeare of our Lord 1. then deuide that summe
by 19. the remaine is the Prime of Golden number.

The Epact is thus euer founde.

Multiply the Prime by 11: deuide by 30. the remain is your
desire. These two numbers begin at March, their vse is
chiefly to finde, out the Chaunge, Quarters, and full Moone as
ensueth.

*A Rule for the Chaunge, Full and Quar-
ters of the Moone.*

Put vnto the Epact al the monethes from March, including
the Moneth of Marche: pull then that summe from 30. the
remainne sheweth the day of the chaunge.

Here note the full Moone is the 15. day after the chaunge.
Also if the remain be lesse then 15. subtratt that lesse from 15,
the rest is the full Moone.

If the remainne passe 30. subtratt it fro 45. then the full doth
also appeare.

To conclude, if fro the full Moone ye pul 15. dayes, you haue
the chaunge going befoze. The chaunge had, the Quarters are
knownen by adding of pulling away 7. dayes.

For the

*For the age of the Moone, vworks
thus for euer.*

A Doe to the dayes of your monethe the Epacte, and also as
manye dayes moze as are Monethes from Marche to the
Moneth, including both Moneths. Now subtract 30. if ye may
the age then remayneth.

*¶ Now shalbe declared what Signes and
degrees the Moone differeth from the
Sunne, by which is gathered at all ti-
mes the Signe and Grade when
in specis.*

Multiplye the age of the Moone by 4. deniue by 10. the
Quotience the with the Signes that the Moone dif-
fereth from the Sunne. The remaine augmented by
thre byingeth degrees to be added. We must put these
Signes and degrees to the place of the Sunne: the product, it
meane the increas or ende of al these Signes and Degrees,
in order counted from the Sunne, declare the place of the Moone
in the Zodiacke.

*The place of the Sunne in the Zodiacke
is thus found.*

First know that the xi. day of Ianuary, the Sunne is
entered in the x. day of February. The xi. of March
v. The xi. of Aprill. & The xi. of May ii. The xi.
of Iune s. The xi. of Iuly n. The xi. of Auguste
ny. The xi. of September n. The xi. of October m. The
13. of Nouember x. The xi. of December. 3

This knowen, the place of the Sunne is wel found, addyng
for euery day past any entry 1. degree.

Ensam-

Briefe.

Ensample.

I Require the place of the Sunne the 21. day of August. I find
that the Sunne is entered in m° . the 14. day of the Moneth. I
must for every day past any entrey adde i. degree. There are 7.
dayes past that entrey, then I conclude the Sunne readye to
haue place in the 8. degree of m° the 21. of August.

To know how long the
Moone shineth.

For his thing, in the encrease multiply the age of p° Moone
by 4. In the same augment the rest of the age whych thee
lacketh of 30. by 4. and deuide by 5. the Quotiente sheweth the
houres: the remaines if ther be any, multiplied by 12. byingeth
minutes to be added.

Howe the moueable Feastes are
found readily.

Seeke the change of the Moone in February, for that
peare pee requyre these Moueable Feastes. Note what day
it falleth on the next tuesday is Shrouetuesday. But if p° chaung
be on tuesday, then the next tuesday ensuinge is sc° . The nexte
Sunday is the first Sunday of Lent. Sixe Sundayes after is
Easter daye. Adde 35. dayes or 5. weekes to Easter daye, pee
haue Rogacion Sunday. To that adde 4. dayes, so haue pee
Ascencion daye. Then haue ye 10. dayes to Whitsoncyde. Se-
uen dayes after is Trinitie Sunday. And foure dayes after is
Corpus Christi day.

Without Tables at all times to
know the Tydes.

Learn as is declared the age of the Moone, also remembere
the houre of the ful. or chaung for your place or point which
doth neuer vary, these knowen, worke thus,

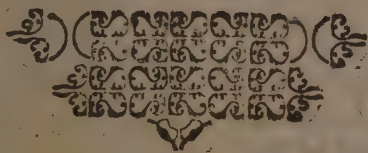
Ensam.

Ensamble.

Vhen the Moone is 10. dayes olde. I desyre to know at
what of the clocke it is ful Sea at Londo brydge. Mul-
tiplie 10. by 48. so haue yee 480. deuide that by 60. yee haue 8.
houres. To that adde 3. which is the houre of the ful or chaunge
appointed for that place. Al then commeth vnto 11. of the clock
high water at London brydge. If any thing remaine they
are Minutes of an houre. If the houres amount a-
boue 12. cast the twelues away. the rest
is your requeste.

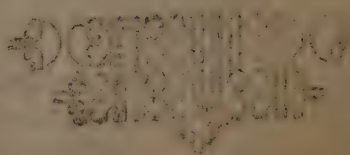
FINIS.

A Perfit



[The page contains several lines of extremely faint, illegible text.]

At Fenne



To the Reader.



Having of late (gentle Reader) corrected and reformed sondry faulies that by negligēce in printing haue crept into my fathers Generall Prognostication: Among other things I founde a description or Modill of the world and situation of Spheres Cælestiall and Elementare according to the doctrine of Ptolome, wherunto al Uniuersities (led there to chiefly by the authority of Aristotle) sitthens haue consēted. But in this our age one rare witte (seeing the continual errors that from time to time more & more haue bin discovered, besides the infinite absurdities in their Theorickes, which they haue bin forced to admit that would not confesse any mobility in the ball of the Earth) hath by long studie, painful practise, and rare inuentiō deliuered a new Theorick or model of the world, shewing that the earth resteth not in the Center of the whole world, but only in the Center of this our mortal world or Globe of Elements which enuironed and enclosed in the Moones Orbe, and together with the whole Globe of mortalitie is caried yearely round about the Sunne, which like a king in the midst of all raigneth and geueth lawes of motion to the rest spherically dispersing his glorious beames of light through this sacred Cælestiall Temple. And the earth it selfe to bee one of the Planets hauing his peculiar & straying courses rourning euerye 24 houres round upon his owne Center whereby the ☉ and great Globe of fixed starres seeme to sway about and turne, albeit in deede they remaine fixed. So many wayes is the sense of mortall men abused, but reason and deepe discourse of wit hauing opened these things to Copernicus, & the same being with demonstrations Mathematicall most apparantly by him to the world deliuered, I thought it conuenient together with the olde Theorick also to publish this: to the end such noble English mindes (as delight to reach aboue the baser sort of men) might not be altogether defrauded of a noble part of Philosophy. And to the end it might manifestlye appeare that Copernicus ment not as some haue fondly excused him to deliuer these grounds of the Earthes mobility onely as Mathematicall principles, sayned & not as Philosophical truthes.

To the reader.

red. I haue also from him deliuered both the Philosophicall reasons by Aristotle and others produced to maintaine the Earths stability, and also their solutions and insufficiency wherein I cannot a little commend the modestie of that graue Philosopher Aristotle, who seing (no doubt) the insufficiency, of his own reasons in seeking to confute the Earths motion, vseth these words. *De his explicatum est ea qua potuimus facultate habere* his disciples haue not with like sobrietye maintayned the same. Thus much for my owne parte in this case I will onely say. There is no doubt but of a true grounde truer effects maie be produced then of principles that are false, and of true principles falshood or absurditie cannot be inferred. If therefore the Earth be situate immouable in the Center of the world, why finde we not Theorickes vpon that grounde to produce effects as true and certaine as these of Copernicus? Why cast we not away those Circulos Aquantes & motions irregulare, seinge our owne Philosopher Aristotle himselfe the light of our Vniuersities hath taught vs *Simplicis corporis simplicem oportet esse motum*. But if contrary it bee founde, impossible (the Earths stability being graunted, but that we must necessarilie fall into these absurdities, and cannot by any meane auoide them. Why shall we so much dote in the apparence of our senses, which manie waies maie be abused, & not suffer our selues to be directed by the rule of Reason, which the greates GOD hath giuen vs as a Lampe to lighten the darcknes of our vnderstandyng and the perfite guide to leade vs to the golden braunche of Veritye amidst the forest of errors.

Beholde a noble question to be of the Philosophers and Mathematicians of our Vniuersities argued not with childish Inuectiues but with graue reasons Philosophicall and irreprouable Demonstrations Mathematicall. And let vs not in matters of reaso be ledde away with auctority and opinions of men, but with the Starryed Poet let vs say.

Non quid Aristoteles vel quiuis dicat eorum
Dicta nihil moror, à vero cum forte recedunt.
Magni sæpè viri mendacia magna loquuntur.
Nec quisquam est adeo sagax, quin sæpius erret.

Ratio dux fida Sophorum;

THE

To the reader.

THE Globe of Elements enclosed in the Orbe of the Moone
I call the Globe of Mortality because it is the peculiar
Empire of death. For above the Moone they feare not his
force but as the Christian Poet sayeth.

Omne quod est supra lunam, æternumq; bonumq;
Esse scias nec triste aliquid Cælestia tangit.
Quicquid verò infra Lunæ conuexa creauit
Omniparens natura, malum est, mortisq; seueras,
Perpetitur leges & edaci absimitur æuo.

Again.

Omne malum est infra lunam, nox atra, procellæ
Terribiles, frigus, calor, importuna senectus,
Pauperies, male suada, labor, dolor, improbitas, Mors.
Supra autem lunam, lucis sunt omnia plena.
Nec non lætitiæ & pacis, non tempus & error
Et MORS & senium est illic & inutile quicquam.
Fœlix ô nimium fœlix, cui sedibus illis
Tam pulchris & tam iucundis tamq; beatis
Viuere concessum est, supremi munere Regis.

And againe.

Singula nonnulli credunt quoq; sydera posse
Dici Orbes, TERRAMq; appellant sydus opacum
Cui minimus Diuûm præsit &c.

In the midst of this Globe of Mortality hãgeth this darck starre
or ball of earth and water balanced and sustained in the midst of
the thinne ayer onely with that propriety which the wõderful work
man hath giuen at the Creation to the Ceter of this Globe with his
magnetick force v ehemẽtly to draw and hale vnto it self al such
other Elementall thinges as retaine the like nature . This ball
euery 24. houres by natural, uniforme and wonderfullic & smoth
motion rounleth rounde, making with his Periode our naturall day,
whereby it semeth to vs that the huge infinite immoueable Globe
should sway and turne about.

M.

The

To the reader.

The Moones Orbe that enuironeth and containeth this darcke
flarre and the other mortall, changeable, corruptible Elementes &
Elementate things is also turned round every 29. dayes 31. minne
50. seconds. 8. thirds, 9. fourths, & 20. fifths, and this Periode may
most aptly be called the Moneth. Therest of the Planets motions
appeare by the picture and shal mere largely be hereafter spokē of.

HEREIN good Reader, I haue maded farther then the vul-
gar sorte Demōstratiue & Practicē, & God sparing life I meane
though not as a iudge to decide, yet at the Mathematicall barre in
this case to pleade in such sort, as it shall manifestly appeare to the
VVorld whether it be possible vpon the Earthes stabilitie to deli-
uer any true or probable Theorick, & then referre the pronōcing
of sentence to the graue Senate of indifferent discrete Mathema-
ticall Readers.

Farewell and respect my trauaile as thou shalt see them tend to
the aduancement of truth and discovering the Monstrous loke
some shape of error.

A Perfit

A PERFITE DESCRIPTI

on of the Cælestiall Orbes according

to the most auncient doctrine of the Pythagorians,

lately reuyned by Copernicus and by Geome-

tricall Demonstrations ap-

prooued.



Although in this most excellent and dy-
ficile parte of Philosophy in all ti-
mes haue bin sondry opinions touchyng
the situation & mouing of the bodies
Celestiall, yet in certain principles al
Philosophers of any accompt of all
ages haue agreed & cōsented. Firſt
that the Dybe of the fixed stars is of
al other the most high, the fardest dis-

tant, and comprehendeth all the other spheres of wandringe
starres. And of these straying bodies called Planettes y^e olde
philosophers thoughte it a good ground in reason y^e the highest
to the Centre should swiftliest moue, because the circle was
least and thereby the sooner ouerpasse and the farther distant
the more slowly. Therefore as the Moone beyng swiftest in
course is founde also by measure highest, so haue all agreed y^e
the Dybe of J being in mouing the slowest of al the Planets,
is also the highest, 7 the next, and then J, but of ♀ & ☿ ther-
hath ben great controuersy, because they stray not euery way
from the Sūne as the rest doo. And therefore some haue placed
them aboue the Sūne as Plato in his Timæo others beneath
as Ptolomy and the greater part of them that followed him.
Alpetragius maketh ♀ aboue the Sunne and ☿ beneath, and
sundry reasons haue ben of al sides alledged in defence of their
opinions. They that follow Plato (supposyng that al starres
should haue obscure & darke bodies shyninge with borrowed
light like the Moone) haue alledged that if those Planets wer
lower then the Sun, then should they sometime obscure som

parts

The Addition.

and opposite are much greater in light & nigher to vs, wherby it cannot be but the centre of them is rather to the ☉ thē to y^e earth to be referred: as in the Orbes of ♀ and ♀ also. But if al these to the Sunne as a centre in this manner be referred, then must there needes betwene the conuer Orbe of ♀ and the concave of ♀ an huge space bee left wherein the earth & Elementare frame enclosed with the Lunary Orbe of duty must be situate. For from the earth the Moone may not be farre removed, beyng without conuersion of al other nigher in place and nature to it: especially cōsidering betwene the same Orbes of ♀ and ♀ there is roome sufficient. Therefore neede we not to be ashamed to cōfesse this whole globe of Elements enclosed with the Moones sphere together with the earth as the Centre of the same to bee by this great Orbe together wth the other Planets about the Sun tourned making by his reuolution our yeare. And what soeuer seeme to vs to proceede by the mouing of the Sunne, the same to proceede in drede by the reuolution of the earth, the Sunne still remayning fixed & immouable in the middelt. And the distance of the earth frō the Sunne to be such as being compared with the other Planets maketh euident alterations and diuersity of Aspects, but if it be referred to y^e Orbe of starres fixed, thē hath it no proportion sensible, but as a point or a Center to a circumference which I should farre more reasonable to be graunted, then to fall into such an infinite multitude of absurbe imaginations, as they were faine to admit that w^{ill} needes wilfully mayntaine the earthes stability in the Centre of the worlde. But rather herein to direct our selues by that wisdom we see in al gods naturall workes, where we may behould one thing rather endued with many vertues and effectes, then any superfluous or vnnecessary part admitted. And all these thinges althoughe they seme hard, strange & incredible, yet to any reasonable mā y^e hath his vnderstanding ripened with Mathematicall demonstration, Copernicus in his Reuolutions accordinge to hys promise hath made them more euident and cleare then y^e Sun beames. These grounds therefore admitted which no man reasonably can impugne, that the greater orbe requireth the longer time to run his Periode: The orderly and most beuifull frame of the Heauens doeth ensue.

The

The Addition.

The first and highest of al is the immoueable sphere of fixed starres containing it selfe and al the rest, and therefore fixed: as the place vniuersal of rest, whereunto the motions and positions of al inferiour spheres are to be compared. For albeist sundry Astrologians finding alteration in the declination and Longitude of starres, haue thought that the same also should haue his motion peculiere: Yet Copernicus by his motions of the earth salueth al, and betterly cutteth of the ninth and tenth spheres, whych contrary to all sence the maynteyners of the earthes stabilitie haue bin compeller to imagine.

The first of the moueable Orbes is that of \bar{h} , which being of all other next vnto his infinite Orbe immoueable garnished with lightes innumerable is also in his course most slow, & once only in thirtie yeares passeth his Periode.

The second is \bar{z} , who in 12. yerres perfourmeth his circuit.

Mars in 2. yeares runneth his circulare race.

Then followeth the great Orbe wherein the globe of mortalltye is inclosed in the Moones Orbe as an Epicycle and holdinge the earth as a Centre by his owne waighe resting alway permanente, in the midst of the ayre is carped rounde once in a yeare.

In the fift place is \bar{f} making his reuolution in 9. moneths.

In the 6. is \bar{v} , who passeth his circuit in 80. dayes.

In the midst of all is the Sunne.

For in so stately a temple as this who would desyre to set his lampe in any other better or more conuenient place then this, from whence vniformely it might distribute light to al, for not unfitly it is of some called the lampe or light of the worlde, of others the mynde, of others the Ruler of the worlde.

Ad cuius numeros & diu moueantur & Orbes

Accipiant leges prescriptaq; fadera seruent.

$\bar{\Gamma}$ Trismegistus calleth hym the visible God. Thus doth the Sun like a king sitting in his throne govern his courts of inferiour

The Addition.

our powers: Neither is h Earth defrauded of the service of h Moone, but as Aristotle saith of all other the Moone with h earth hath highest alliance, so heere are they matched accordingly.

In this forme of Frame may we behold such a wonderful Symetry of motions and situations, as in no other can be propounded: The times whereby we the Inhabitants of the earth are directed, are constituted by the reuolutions of the earth h circulation of hir Centre causeth the yeare, the conuersion of hir circumference maketh the naturall day, and the reuolution of the Q produceth the moneth. By the onely view of thys Theorick the cause & reason is apparant why in Q the progressions and Retrogradations are greater then in h , and lesse then in A , why also in Q they are more then in P . And why such chaunges from Direct to Retrograde Seasonarie, &c. happeneth notwithstanding more rarily in h then in Z & yet more rarely in A why in Q not so commonly as in P . Also why h Z and A are nigher the earth in their Acronicall then in their Cosmicall or Heliacall rising. Especially A who rising at the Sunne set, he weth in his ruddy fierc shew out equal in quantitie with Iupiter, and contrarywise setting little after h Sunne, is scarcely to be discerned from a Starre of the second lyght. All which alterations apparantly folowe vpon the Earthes motion. And that none of these do happen in h fixed starres, it playntly argueth this huge distance and immeasurable Altitude, in respect whereof this great Dybe wherein the earth is carryed is but apoynt, and vicerly without sensible proportion being compared to that beautie. For as it is in perspective demonstrate. Every quantity hath a certaine proportionable distance wherunto it may be discerned and beyond the same it may not be seene, this distance therefore of h immoveable heauen is so exceeding great, that the whole Orbis magnus vanissheth away, if it be conferred to that heauen.

Herein can wee neuer sufficiently admire, thys wonderfull & incomprehensible huge frame of goddes woorkes propounded to our senses, seeing first this baulke of h earth wherein we move, to the common sort seemeth greate, and they in respect of the Moones Dybe is very small, but compared with Orbis magnus

The Addition.

thus wherein it is caried, it scarcely retaineth any sensible proportion, so meruellously is that Orbe of Annual motion greater then this litle darke starre wherein we liue: But y^e Orbis magnus being as is before declared but as a point in respect of the immensity of y^e immoueable heauen, we may easily consider what litle portion of gods frame, our Elementare corruptible world is, but neuer sufficiently be able to admire the immensity of the Rest, Especially of that fixed Orbe garnished with lightes innumerable & reaching by in Sphaericall altitude without ende, Of which lightes Ceststial it is to bee thought that we onely behoulde such as are in the inferiour partes of the same Orbe, & as they are higher, so seeme they of lesse and lesser quantity, even til our sight being not able farther to reach or conceyue, y^e greatest part rest by reason of theire wonderful distance inuisible vnto vs. And this may wel be thought of vs to be y^e glorious court of y^e great god, whose vnsercheable works inuisible we may partly by these his visible cōiecture, to whose infinit power & maiesty such an infinite place surmounting al other both in quantity and quality one-ly is conuenient. But because the world hath so long a tyme bin-carried with an opinion of the earths stability, as the contrary cannot but be now very imperiswable, I haue thought good out of Copernicus also to geue a tast of the reasons philosophicall alledged for the earths stability, and theyr solutions, that such as are not able with Geometrical eyes to behoulde the secrete perfection of Copernicus Theoricke, may yet by these familiar natural reasons be induced to serch farther, and not rashly to condempne for phāstical, so auncient doctrine reuiued, and by Copernicus so demonstratiuely approued.

What reasons moued Aristotle and others that followed him to thincke the earth to rest immoueable as a Centre to the whole world.

The moste effectuall reasons that they produce to proue the earths stability in the middle or lowest part of the world,

The Addition.

that of Grauitie and Leuitie. For of all other the Elements of the earth say they is most heauy, and al ponderous thinges are carryed vnto it, struing as it were to swape euen downe to the inmost part therof. For the earth being round into γ which all waighty thinges on euery syde fall, making righte angles on the superficies, passe to γ Center, seing euery right line γ falleth perpendicularly vppon the Horizon in γ place where it toucheth the earth must nedes passe by the Centre. And those thinges that are carryed toward that Medium, it is likely γ ther also they would rest. So match therefore the rather that the Earth rest in the middle, and (receyuing all thinges into it selfe that fall) by his owne wayghte shall bee most immoueable: Agayne they seeke to proue it by reason of motion and his nature, for of one and the same a synple body γ motion must also be synple sayth Aristotle. Of synple motions there are two kindes right and circular, Right are either vpp or downe: so that euery synple motion is either downward toward the Centre, or vppward from the Centre, or circular about the Centre. Now vnto the earth and water in respects of their wayghte the motion downward is conuenient to seeke the Centre. To ayre and fyre in regarde of their lighenes, vppward and from the Centre. So is it meete to these elements to attribute the ryght or streight motion, and to the heauens only it is proper circularly about this meane or Center to be turned round. Thus much Aristotle. Vt therfore sayth Pro- lomy of Alexandria the earth shoulde turne but only by γ day ly motion, thinges quite contrary to these shoulde happē. For his motion shoulde be most swift and violēt that in 24. howres shoulde let passe the whole circuite of the earth, & those thinges which by sodayn turning are stirred, are altogether vnmete to collecte, but rather to disperse thinges vnited, vnlesse they shoulde by some forme fasteninge be kept together. And lōg ere this the Earth being dissolued in peeces shoulde haue byn scattered throughe the heauens which were a mockery to think of, and much more beastes, & al other waightes that are loose could not remayn vnshaken. And also thinges falling shoulde not light on the places perpendiculare vnder theym, neither

shoulde

The Addition.

Should they fall directly thereto, the same beinge violently in the meane carryed rwaie. Cloudes also and other thynges hanginge in the ayre shoulde alwayes seeme to vs to be carried toward the West.

*The Solution of these Reasons.
with their insufficiencye.*

These are y^e causes, & such other wherewith they approue the Earth to rest in the middle of the world and that out of all question; But hee that will maintein the Earthes mobility may say that this motion is not violent but naturall. And these thinges whych are naturallly moued haue effects contrary to such as are violentlye carried. For such motions wherein force and violence is v^sed, muste needes be dissolued and cannot be of long continuance, but those which by nature are caused, remaine til in their perfit estate and are conserued and kepte in their most excellent constitution. Without cause therefore did Ptolomey feare least the Earth and al earthly thinges shoulde bee torne in pⁱeces by this reuolution of the Earth caused by the workyng of nature, whose operations are farre different from those of Arte or such as humaine intelligence may reach vnto. But whye shoulde hee not much more thincke and misdoubt the same of the world, whose motion muste of necessity be so much more swift and vehemente then this of the Earth, as y^e heauen is greater then y^e Earth. Is therefore the Heauen made so buyge in quantite that it might wⁱth vnspeakable vehemencye of motion bee seuered from the Centre, least happily resting it shoulde fall, as some Philosophers haue affirmed: Surely yf this reason shoulde take place, the Magnitude of the Heauen shoulde infinitely extend. For the more this motion shoulde violentlye bee carried higher, the greater shoulde the swiftnes be, by reason of the increasing of the circūferēce which must of necessity in 24. houers bee past ouer, and in lyke manner by increase of the motion the Magnitude muste also necessarilye bee augmented. Thus shoulde the swiftnes increase the Magnitude and the Magnitude the swiftnes infinitely: But according to that ground of

The Addition:

nature whatsoeuer is infynite can neuer be passed ouer. The Heauen therefore of necessity must stand and rest fixed. But say they without the heauen ther is no body, no place, no emptynes, no not any thing at al whether heauen should or could farther extende. But thys surely is very straunge that no-thing should haue such effycent Power to restrayne some-thing the same hauing a very essence and beyng Yet yf wee would thus confesse that the Heauen were in deede infinitch ward, and onely fynite downeward in respect of his spheri- call concauety, Butch more perhappes myght that saying bee verpyfied, that without the Heauen is no-thing, seepng euerpe- thing in respect of the infinitenes thereof had place sufficient within y same. But then must it of necessity remain immoue- able. For the chyefest reason that hath moued some to thinck the heauen limpyted was Motion, whych they thought with- out controuerlie to be in deede in it. But whether the world haue hys boundes or bee indeede infynite & without bounds, let vs leaue y to be discuffed of Phillosophers, sure we are y the Earth is not infynite but hath a cymmference lymitted, sepng therefore all Phillosophers consent y lympyted bodies may haue Motion, and infynite cannot haue anye: Whye do we yet stagger to confesse motyon in the Earth being most agreeable to hys forme and nature, whose boundes also and cymmference wee knowe, rather then to imagine that the whole world should sway and turne, whose end we knowe no- ne possyibly can of any moztall man be knowne, And therfore the true Motion in deede to be in the Earth, & the apparace only in the Heauen: And that these apparances are no other- wyse then if the Virgilian *Aeneas* should say.

Prochimus portu, terraeq, vrbescq, recedunt.

FOr a shyp carryed in a smoothe Sea with such tranquillity both passe away, that al things on the shozes and the Seas to the saylers seeme to moue and themselues only quyetly to rest with al such thinges as are aborde them, so surely may it bee in the Earth whose Motion being natural and not for-
rible

The Addition.

cible of al other is most vniforme and hyperceauable, whereby to vs that sayle therein the whole world maye seeme to roule about. But what shall wee then saye of Cloudes and other chynge hangyng or resting in the ayre or tendinge upward, but that not only the Earth and sea making one globe but also no smal part of the ayre is likewise circularly caried and in like sort all such thinges as are deriued from them or haue any maner of alliance with them. Either for that the lower Region of the ayre being mixte with Earthlye and watry vapours folow the same nature of the Earth. Eyther that it be gayned and gotten from the earth by reason of Vicinity or Contiguity. Which if any man merueyle at, let him consider how the olde Philisophers dyd yelde the same reason for the reuolution of the highest Region of the ayre, wherein we may sometyme behoulde Comets carryed circularly no otherwise then the bodies Celestial seeme to be, and yet hath that Region of the ayre, lesse conuenience with the Dybes Celestial, then this lower part with the earth. But we asseyme that part of the aire in respect of his great distance to be destitute of this motion Terrestrial, and this part of the ayre which is next to the Earth doth appeare most still and quyet by reason of his vniforme naturall accompanying of the Earth, and lykewyse thinges that hange therein, onelesse by winds or other violēt accident they be tossed to and fro: For the wynd in the ayre is nothing els but as the wane in the Sea: And of thinges ascending and descending in respect of the world we must confesse they to haue a mixt motion of right & circular, albeit it seems to vs right and streight. No otherwise then if in a ship vnder sayle a man shoulde softly let a plummet downe from the top alonge by the masse euen to the decke: This plummet passinge alwayes by the streight masse, seemeth also to fall in a ryghte line, but being by discours of reason wayed his motion is found mixt of right and circular. For such thinges as naturally fall downward being of earthly nature there is no doubt but as partes they retayne the nature of the whole. No other wise is it of these things that by fierp force are caried upward. For the earthly fier is chiefly nourished with earthly matter, and flame is destined to be nought els but a burning fume or smoke

The Addition.

Smoke and the property of fyre is to extend the subject where unto it entereth, the which it doth with so great violence as by no meanes or engines it can be constrained but that with breache of bandes it wil perfourme his nature. This motion extensive is from the Centre to the circumference, so that if any earthly part be fiered, it is carryed violently byward. There fore whereas they say that of simple bodyes the motion is altogether simple, of the circular it is chiefly verified, so long as the simple body remaineth in his natural place and persit v- nity of composition, for in the same place there can be no other motion but circular, which remayning wholly in it selfe is most like to rest and immobility. But right or streight motiõ only happen to those things that stray and wander or by anye meanes are thrust out of their natural place. But nothing can bee more Repugnaunce to the forme and Ordinaunce of the world, then that things, naturally should be out of their natural place. This kinde of motion therefore that is by right line is only accident to those things that are not in their right state or perfection naturall, while partes are disioyned from their whole body, and couet to retourne to the vinity thereof agayne. Neither do these things which are carryed byward or down ward besides this circular mouinge make anye simple, vny- forme, or equal motion, for which their leuity or ponderosity of their body they cannot be tempered but alwaies as they fall (beginninge slowly) they increase their motion, and the farther they move swiftly, whereas contrariwise this our earthly fier (for other we cannot see) we may behold as it is carryed byward to vanish and decay as it were confessing the cause of violence to proceede only from his matter Terrestriall. The circular motion alway continueth vnyforme and equall by reason of his cause which is insufficient and alway continuing. But the other hasteneth to ende and to attayne that place where they leane lenger to be heauy or light, and hauing attayned that place, they motion ceaseth. Seing therefore this circular motion is proper to the whole as streight is only vnto parts, we may say that circular doth rest with streight as Animal cum Agro. And whereas Aristotle hath distributed Sim- plicem motum into these thre kyndes A medio ad medium, and

The Addition.

and *Circa medium*, it must be onely in reason, and imagination, as wee likewise seuer / in consideration Geometricall a point, a line, and a superficies, whereas in deede neither can stand without other, ne any of them without a body.

Hereto we may adioyne that the condition of immobility is moze noble and diuine then \dot{y} of change, alteration, or instability, & therfore moze agreeable to heauen then to this earth where al things are subiect to continual mutability. And seeing by euident prooffe of Geometricall mensuration wee finde that the Planets are sometimes nigher to vs and sometymes moze remote, and that therfore even the maintainers of the Earths stability are enforced to confesse that the Earth is not their *Diues Centre*, this motio *Circa medium* must in moze general sort bee taken and that it may bee vnderstande that euery *Diue* hath his peculiar Medium and Centre, in regard wherof this simple and vniforme motion is to be considered. Seeing therfore that these *Diues* haue seuerall Centres, it may be doubted whether the Centre of this earthly Gravity be also the Centre of the world. For Gravity is nothinge els but a certaine *propensity* or natural coueting of partes to bee coupled with the whole, whych by diuine prouidence of the Creator of al is giuen & impresse into the partes, \dot{y} they should restore themselues into their vniety and integrity concurring in spherical forme. Which kind of propriety or affection it is likely also that the Moone and other glorious bodies wante not to knit & combine their partes together, and to maintein them in their round shape, which bodies notwithstanding are by sundry motions, sundry wayes conuiged. Thus as it is apparant by these natural reasons \dot{y} the mobility of the earth is moze probable and likely then the stability. So if it bee Mathematically considered and with Geometrical Mensurations euery part of euery Theoricke examined: the discrete Student shall fynde that Copernicus not without great reason did propone this ground of the Earthes Mobility.

A short Discourse touching
the Variation of the compasse.

Peruel-

The Addition.

MTrueplous no doubt is that naturall propriety of the Magnes whereby y needle touched immediatly courmeth to some one certayn poinct of the heauens, and after sundry motions hither and thither findeth rest onely in one place and poinct. And alvett this poinct in feveral Horizons be dyfferent, yet in any one Horizon it remaineth alway permanent, and therfore it playnly appereth that the same proceedeth of some constāt permanent cause naturall, and not of any mutable uncertayne cause accidentall. But what this cause should be, no man hitherto hath trulye discovered. To omit apparant absurd opinions, the most probable of those that haue ben gyuen and generally best allowed is the Poinct Attractiue, which should be of such vertue as to draw the needle touched alway toward the same poinct, but whether this poinct should be in the Heauens or Earthe is another controuerſie. Such as wil haue it in the Earthe asſume it to be a huge mountayne or rocke of Magnes Stone, distant from the Pole certayne grades, which drawing the needle to it selfe alwayes cauſeth it to make an angle of Variation from the pole of the world saue onely vnder the Meridiane that passeth by the same Attractiue poynct. But the error of this opinion wil ſone be found of them that shall vpon this supposition and two different angles of variation search out the place of that Poynct Attractiue (the same being in y Interſection of the two circles of poſitiō by the variations determined) and then conferre that with some third angle of variation: whereby it ſhal plainly appeare that in the Earthe no ſuch one Attractiue Poinct can be imagined, as ſhall by circle of poſition produce ſuch variations as in Nauigatiō haue bin diſcouered. And to place this Poynct Attractiue in any of the Heauens, it would appeare more abſurde for whether the Heauens mooue and the Earthe reſts immooueable, or the Earthe mooue and the great Dybe of ſtarres be permanent, as of neceſſity the one or the other muſt bee true (conſidering a motion is apparant) it muſt neceſſarily ſolow that hys alteration ſhould bee in continual alteration euerye howe and moment of the day, but by experience we ſynd the contrary, and therfore may neceſſarily be inferred, no ſuch Attractiue Poyncte

The Addition:

Supposition I could easely determine if ther were anye trust to the obseruation of Partners, but, hauing found by experience their grosse blage and bad homely instrumentes, where halfe a point commonly breakes no square, and also their repugnant tales that haue trauelled the selfe same voyages I cannot yet resolue.

Vpon due examination of this Hypothesis there may happily fall out a straunge Paradoxe not thought of hitherto that these bulgare marine Charters delineate with Parallele meridianes, and right lined Rumby beinge of themselves apparently false and erroneous, yet vled without rectification of the compas may bring forth true effectes, and so two errors concurring produce a veritye.

Errours in the art of Nauigation commonly practized.

In all their Chartes are describ'd with streight Meridiane lines running equidistant or Parallele which error is most manifest to any that hath tasted but the fynde Principles of Cosmographie considering they are all great circles & concur in the Poles.

Secondly they suppose that running vpon any of these pointes of their compasse they should passe in the circumference of a greate circle and therfore in the plaine Chartes describe those windes with streight lines, but therein are they greatly abused, for the shippe steering the North and the South onely maketh her course in a great circle East or West she describeth a Parallele and beinge steered on any other meane poyntes (the compasse beinge truely rectified) she delineateth in her course a curue or Helicall line, neither straight nor circulate but myxt of both, and therfore to sette forth these wyndes in þ Chartes with streight lines is most erroneous.

The Addition.

Thirdly their rule to know $\frac{1}{2}$ Latitude by the Pole starre adding or subtracting from his Altitude according to the situation of the Guardes, is also false, and that worst is cannot bee amended, but bee it neuer so well rectified to one Climate, yet is it false in al other.

Further by their taking of the Sunne with their Balestile (as they terme it) is most false, and whereas some fyndinge the error therof haue gone about to remedy the same by cutting of a part at the end thinking thereby it might appoche to the Centre of the eye, they encrease thereby the error (and make it more false. For *visus non fit à puncto*. as they suppose. And this error is muche like the other of the Pole starre and situation of the Guardes, for be it neuer so wel corrected by section to any one Altitude then shal it be false for all other, as to any skillful in Perspective, it is easily demonstrate.

This Error I haue already reformed Demonstratiue, & Practice in my booke latelpe published entituled *Ala sen's Scale Mathematica*.

Also the Rules they haue to knowe howe manpe leagues they shal runne bypon euery poynt to raise one degree in Latitude, are also meere faulse. For they serch that Arck Itinerall as though it were the Hypothenusa to a right angled trian-gle whose sides are circles of contrary nature $\frac{1}{2}$ one a Parallele the other greaer Circle, and therefore without all sense seeke they by proportion of right Lines to deliuer their quantity.

But besides these errors they haue one great imperfection yet in their art, and byther too by no man supplied, and that is the want of exact rules to know the Longitude or Arckes Itinerall, East and West, without the which they can neither truly geue the place of situation of any Coast, Harborough, Rode or Towne, ne yet in sayling, discern how the place they sayle vnto beareth from them, or how farre it is distant, where by they are enforced longe before they come at any Coast all night to stpyke saile, no other wayes then if they were byponit, thereby

ther by loosing the benefite of prosperous windes, in such sorte
sometime, that whereas keepinge a true course they mighte
haue bene quietly at Roade, they are by contrary and aduerse
tempestes carped farre of, and so not withoute greate charge
to the owner, paine to the company, and peril to the vessel, are
enforced to wast their time, which groweth of their ignorance
that they neither haue true Rules to direct themselves, the
highest course, ne yet treadinge their beaten pathes can as-
suredly dicide of their certaine place. For reformation of these
errours and imperfections, new Chartes, newe instrumentes
and newe Rules muste bee prescribed. Wherein I haue
prepared in a peculier volume for that purpose to en-
treate, wishinge in the meane time that such as
are not able to reforme these faultes
wil abstayne to teach ours
Country men more
Errours.

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